

Steens Mountain Final Recreation Area Management Plan



U.S. Department of the Interior
Bureau of Land Management



Burns District - Oregon

HD
243
.07
L36
1985
C.3



IN REPLY
REFER TO:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Burns District Office
74 South Alvord, Burns, OR 97720

February 22, 1985

Dear Steens Mountain User:

The final Steens Mountain Recreation Management Plan has been completed and a copy is enclosed for your use.

This document outlines the management direction the Bureau of Land Management will be taking in the coming years on public land in the Steens Mountain Recreation Lands.

These decisions are the result of many written and personal public comments, the District's Advisory Board Council input, and a public meeting held during the 45-day comment period on the draft document.

After a 30-day public review period from this publication date, the decisions outlined in this final document will be implemented. All comments should be sent to the Burns District Manager, BLM, 74 S. Alvord St., Burns, Oregon 97720 by March 29, 1985.

Thank you for your interest and support in BLM's Steens Mountain Recreation Lands.

Sincerely yours,

Joshua L. Warburton
District Manager

8801525
1985
HD
243.1
.07
L36
1985
c.3

Recreation Area Management Final Plan for the

Steens Mountain Recreation Lands

Oregon

U.S. Department of the Interior
Bureau of Land Management
Burns District Oregon

Recommended by

David E. Vickstrom

David E. Vickstrom, Outdoor Recreation Planner

Accepted by

Marvin D. Durfee

Marvin D. Durfee, Andrews Resource Area Manager

Approved by

Joshua L. Warburton

Joshua L. Warburton, Burns District Manager

BUREAU OF LAND MANAGEMENT LIBRARY
Denver, Colorado



88015723

Bldg. 50, Denver Federal Center
Denver, CO 80225

Steens Mountain Recreation Management Plan Change Analysis

	Action	Present Management	Future Management
I.A.1.	Wilderness Study Area Designations	Interim Management to not impair wilderness suitability (6 areas).	Future designation as wilderness areas.
I.A.2.	Areas of Critical Environmental Concern/-Research Natural Areas	Designations are in effect (6 areas).	Develop & implement management plans, continue inventories for future areas, if any.
I.A.3.	Special Recreation Use Permits	Presently issued for specific recreational uses.	Continuation of permit system per regulations established in code of Federal Regulations Part 8370 and 8560.
I.A.4.	High Desert Trail Route/Other Trail Routes	Portion of trail route established over Bureau administered lands.	Continued cooperation with other entities to establish a Desert Trail route & a trails system.
I.B.1	Law Enforcement/Search and Rescue/Visitor Safety	Co-op agreement with Harney Co. Sheriff's Office to act as enforcement agent.	Continuation of annual agreement.
I.B.2	Recreational Use Monitoring	Various methods employed for data gathering.	Continuation of procedures as funding permits
I.B.3.	Visitor Use Allocation System	None.	Initiate if warranted
I.B.4.	Public Information and Education Program	Minimal with map/brochure and public contact during summer and fall seasons.	Continue with increase in information available at contact points (campgrounds, overlooks, points of interest).
I.C.1.	Facilities Operation & Maintenance	Minimum maintenance level for acceptable Bureau and State safety & health standards.	Same as present management.
I.C.2.	Present Development a. Jackman Park	Primarily used for group camping.	Upgrade Jackman Park to enhance site for group camping; provide a water system; better definement of campsites.
	b. Page Springs	Campside layout not well defined; poor interpretation of natural resource values.	Better definement of campsites; maintain conditions that promote wildlife habitats; upgrade and maintain nature trail with interpretation of natural features.
I.C.3.	Future Developments a. Blitzen Crossing	Blitzen Crossing now closed.	Develop alternate site on S. Loop.
	b. Campgrounds for groups using horses.	No sites specifically developed	Two sites (N. and S. Loop), each with approximately 20 camping sites and accompanying facilities.

	Action	Present Management	Future Management
	c. Overlooks & Waysides	Minimal development of four sites — Kiger Gorge, Little Blitzen Canyon, East Rim and Wildhorse Lake; no on-site interpretive facilities.	Develop eleven sites including present four sites to accomodate sightseers driving vehicles around loop road; increase interpretative facilities.
	d. Visitor Center/Administration Site.	Visitor information and printed material given to public at district office.	Develop Visitor Center/Administrative Site near Frenchglen.
I.C.4.	Signs Program	Minimal signing of campground & points of interest.	Emphasize limiting sign numbers with a revised plan keyed toward interpretation of natural features & visitor safety.
I.D.1.	Upgrading of Existing Roads		
	a. Loop Road	Section of Loop Road from Lily Lake to E. Rim in poor condition.	Upgrade section to a high standard road to allow safe travel of passenger cars.
	b. Other Roads	Low standard of construction.	Same as present management.
I.D.2.	Closure of Existing Roads (Loop Road)	Section on S. Loop four miles E. of Blitzen Crossing to summit now open.	Section may be closed if upper Steen Mountain is designated as wilderness.
I.D.3.	New Access Development (subalpine zone)	No new road development for vehicular access.	Same as present management.
II.A.1.	Motorized Vehicle Use	Off road vehicle designation in force on Sept. 30, 1980.	Same as present management.
II.A.2.	Winter Sports Use	Allowed on permit basis only.	Same as present management.
II.A.3.	Controlled Livestock Grazing in Canyons & Upper Elevations	Some use restrictions on upper mountain by fencing & season of use.	Protection of fragile areas by additional grazing management actions.
II.A.4.	Recreation Use Conflicts for recreation uses.	Minimum of requirements	Requirements and stipulations will change as recreation use conflicts develop or diminish; group size, length of stay, use of horses and pack animals, and intensive use sites are examples of conflicts that may develop.
II.A.5.	Land and Mineral Entry	Mining Claims have been developed under 1872 Mining Law with minimal regulations.	Use strict interpretation of applicable regulations under 43 CFR 3802 and 43 CFR 3809 to protect natural values.

	Action	Present Management	Future Management
II.A.6.	Regulate Existing Mining Claims	Same as II.A.5.	Partial mitigation of impacts under provisions of Federal Land Policy and Management Act (FLPMA) 43 CFR 3802 and 43 CFR 3809. Management will take into consideration appropriate exceptions for grandfathered uses and valid existing rights.
II.B.1.	Monitoring Bighorn Sheep Populations	Ongoing observations by Oregon Dept. of Fish & Wildlife with cooperation from the Bureau.	Same as present policy with increased study as recreation use increases.
II.B.2.	Redband Trout Habitat	Check human activity in cooperation with the Oregon Dept. of Fish & Wildlife to maintain wild fish habitat and populations.	Same as present management with changes initiated if negative impacts justify it.
II.B.3.	Deer Winter Range	Closed to ORV use from October through April with exceptions as noted in ORV designation of September 30, 1980.	Same as present management.
II.C.1.	Cultural Resource Protection	Protection and enhancement of cultural resources under applicable Federal laws and Executive Orders.	Same as present management.
III.A.1.	Land Base Adjustments Involving Private Lands	Ongoing exchanges or purchases of parcels as they become available that have high recreation values or provide access.	Same as present management.
III.A.2.	Land Base Adjustments Involving State Lands	Acquire desired parcels through exchanges.	Same as present management.
III.B.1.	Negotiate Scenic Easements	Obtain easements to protect natural & scenic values.	Same as present management.
III.B.2.	Negotiate Access Easements	Obtain easements to continue or enhance recreational uses.	Same as present management; Trail routes will be considered.
IV.A.1.	Develop management programs	Coordination with other Federal, State and local agencies and private entities for land management.	Same as present management policies.
IV.B.1.	U.S. Air Force	No agreement to mitigate impacts of low-flying aircraft flying at supersonic speeds.	Pursue agreement to alleviate negative impacts of low-flying aircraft over area.

STEENS MOUNTAIN
VICINITY MAP

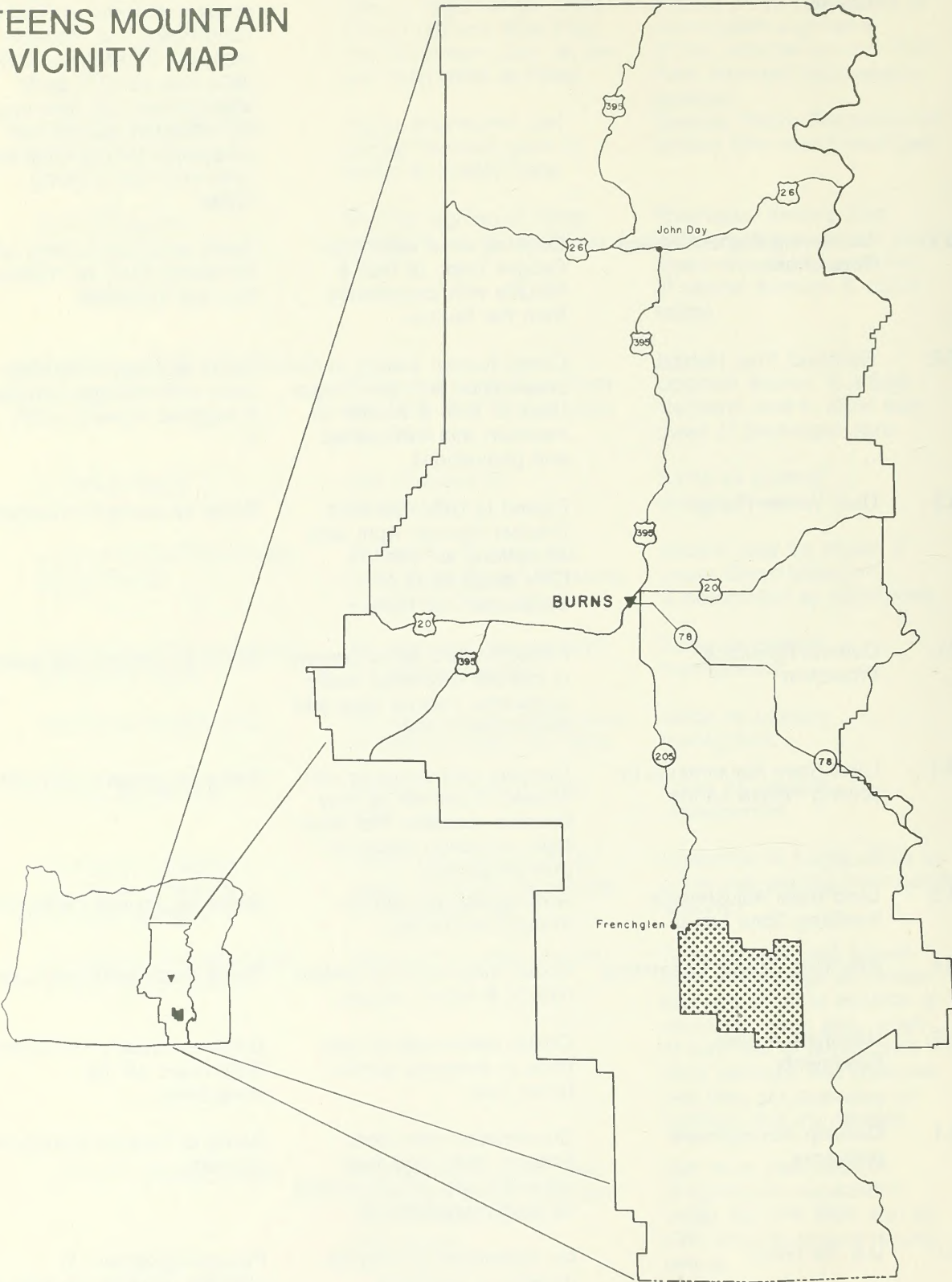


Table of Contents

Part I - Introduction

Page

Background

Purpose and Scope	1
Relationship to Bureau Planning	1
Historical Perspective	1
Legal Status	1

Setting and Multiple Resource Values

Location and Access	2
Area Size and Ownership	2
Physiography	2
Landscape Character	2
Climate	5
Soils	5
Vegetation	5
Water	6
Fish and Wildlife	6
Scenery	7
Research Natural Areas and Areas of Critical Environmental Concern	7
Cultural Resources	8
Recreation	8
Wilderness Study Areas	11
Military Operations	11
Range (Livestock & Wild Horses)	11
Minerals	11
Oil, Gas Geothermal	12

User Profile and Visitation Estimates

Recreation Activity Preferences	12
Vehicles and Other Specialized Equipment	15
Seasons and Times of Use	15
Length of Stay and Party Size	16
Place of Origin	16
Visitation Estimates	16

Major Issues

Issue I - Degree of Administrative Control	17
Issue II - Environmental Protection/Compatibility of Land Uses ..	18
Issue III - Land Ownership	18
Issue IV - Management Cooperation with Other Agencies and Private Entities	18

Part II - Management Objective and Constraints

Management Objective	19
Management Constraints	19

Part III - Management Plan

Issue I - Actions	21
Issue II - Actions	26
Issue III - Actions	28
Issue IV - Actions	29

Part IV - Implementation Phasing and Cost Estimates

33

Part V - Appendices

Appendix A	Planning Participants and Cooperators	37
Appendix B	Applicable Federal, State Laws and and regulations	38
Appendix C	Management Program Alternatives	39
Appendix D	Threatened, Endangered and Sensitive Plants ...	42
Appendix E	Ecosystems Represented in Steens Mountain Wilderness Study Area	43
Appendix F	Recreation Opportunity Spectrum Class Descriptions	45
Appendix G	Bibliography and Writings of Interest	48

Part I Introduction

Background

Purpose and Scope

This recreation management plan serves two purposes. First, it establishes management direction by prescribing a comprehensive set of compatible actions which will provide the Steens Mountain a level of resource protection, development and public use consistent with the objectives for these Recreation Lands as well as the interim guidelines for managing wilderness study areas.

Second, the plan sets forth a sequence for implementing the identified management actions on public lands which are the central theme of this document.

The scope of this issue-oriented document is limited to a discussion of actions on public lands required to resolve issues and take advantage of recreation opportunities provided by the area. Detailed site planning and facility designing will be implemented following approval of the specific management actions identified in this plan.

Historical Perspective

Early man may have inhabited the Steens Mountain and surrounding area as long ago as 12,000 to 13,000 years. The first recorded history began with the exploration of the country by the Snake Country expeditions initiated by the British to exploit the fur trade. Peter Skene Ogden came into the vicinity of the Steens on his third trip (1826-27) and fifth trip (1828-29) while exploring the region and trapping beaver.

In 1860 the U.S. Army sent Major Enoch Steen to protect the settlers from hostile Indians and to determine the feasibility of a road from southeastern Oregon to the Willamette Valley. His party named many prominent topographic features, including Steens Mountain.

Cattle were driven into the country in 1872 and by the 1800's many cattle kingdoms had been established in the lush valleys surrounding the Steens. By 1901 severe overgrazing on the mountain was apparent. Over 150,000 sheep and cattle grazed the area, as public land was open to use by local ranchers and itinerant sheepmen. The 1934 passage of the Taylor Grazing Act which regulates grazing on public lands was one of the factors ending nomadic sheep grazing.

Recreation has become a primary use since the early 1960's. Increased use has been facilitated by the construction of a loop road completed in 1962 which provides access to the top of the mountain.

Relationship to Bureau Planning

The Steens Mountain is a special recreation management area identified in the Andrews Resource Area Management Framework Plan, Burns District. Its designation and management as Recreation Lands is consistent with the District's land use plan. In addition, this plan is a revision of a previous recreation management plan which has been in effect since January, 1972.

Legal Status

The Steens Mountain was designated by the Bureau of Land Management as Steens Mountain Recreation Lands on July 31, 1971, with recreation values being recognized as a primary resource of the area. The "Recreation Lands" identification is one of several means used by BLM to emphasize the overall importance of specific areas with exceptional recreation related values. An area so identified is usually a tract of land, several thousand acres in size, where recreation is or is expected to be a major use, and where special recognition would assist the public by making the area known to them. Provisions for the identification and designation of "Recreation Lands" are set forth in the Code of Federal Regulations, Title 43, Part 2070.

The area will be referred to as "Recreation Lands" throughout the following text.

Executive Order 11644 of February 8, 1972, directs the Bureau to establish policies and provide for procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources, to promote the safety of all users, and to minimize conflicts among the various uses.

A notice of designation was published in the FEDERAL REGISTER, Volume 45, No. 183, September 18, 1980, stating that motorized vehicle use on certain roads and public lands within the boundaries of the Steens Mountain Recreation Lands would be prohibited or limited in accordance with the provisions of 43 CFR Part 8340. This designation was a management action prior to updating and revising planning documents for the Andrews Resource Area through the Bureau Planning System. The designation will remain in force with modifications for protection of resource values.

Six Wilderness Study Areas (WSAs) have been identified under the mandates of the Federal Land Policy and Management Act of 1976, Section 603. The BLM Interim Management Policy and Guidelines for Land Under Wilderness Review (December, 1979) provide the basis for allowable management activities within WSAs.

Five Research Natural Areas (RNA) and one Area of Critical Environmental Concern (ACEC) were designated in the FEDERAL REGISTER, Volume 48, No. 127, June 30, 1983, to give special management attention and protection to resource values.

Setting and Multiple Resource Values

Location and Access

Steens Mountain, often called the "Steens", is located in southeast Oregon's high desert country, 60 miles south of Burns. The area is reached from State Highway 205 which provides access to the southern portion of Harney County. Access within the Recreation Lands is provided by a gravel and dirt loop road which leaves State Highway 205 at Frenchglen, the northern access point, and ten miles south of Frenchglen, the southern access point. The road goes to the summit of the mountain and provides good, seasonal access for recreationists. There are no constructed hiking trails, but access by foot is usually gained by hiking up the well known canyons such as Wildhorse Canyon, Kiger Gorge, Little Blitzen Canyon, Big and Little Indian Canyon, and the Donner und Blitzen River Canyon.

Area Size and Ownership

The boundaries of the land for which this management plan is written are delineated on the Steens Mountain Recreation Map, Bureau of Land Management, Burns District, 1981.

The area within the Steens Mountain Recreation Lands, including all ownerships, totals 193,856 acres. The majority is in public ownership and administered by the BLM. The remaining acreage is in State or private ownership. A large portion of the private lands are located in the canyons and gorges. Acreages of different land ownerships are identified as follows:

	Acres	Percent
Federal	152,129	78.5
State	1,031	.5
Private	40,696	21.0
	193,856	100.0

Physiography

The summit of Steens Mountain is 9,733 feet above sea level-the highest point in Oregon which can be reached by vehicle. The mountain is a thirty-mile long fault block that rises abruptly almost 5,000 feet above the Alvord Desert. This elevation change occurs within a horizontal distance of approximately three miles on the east side while the rise is gradual on the west. The mountain was shaped by glaciers over a million years ago and contains some of the most striking examples of glacial action found on the North American continent.

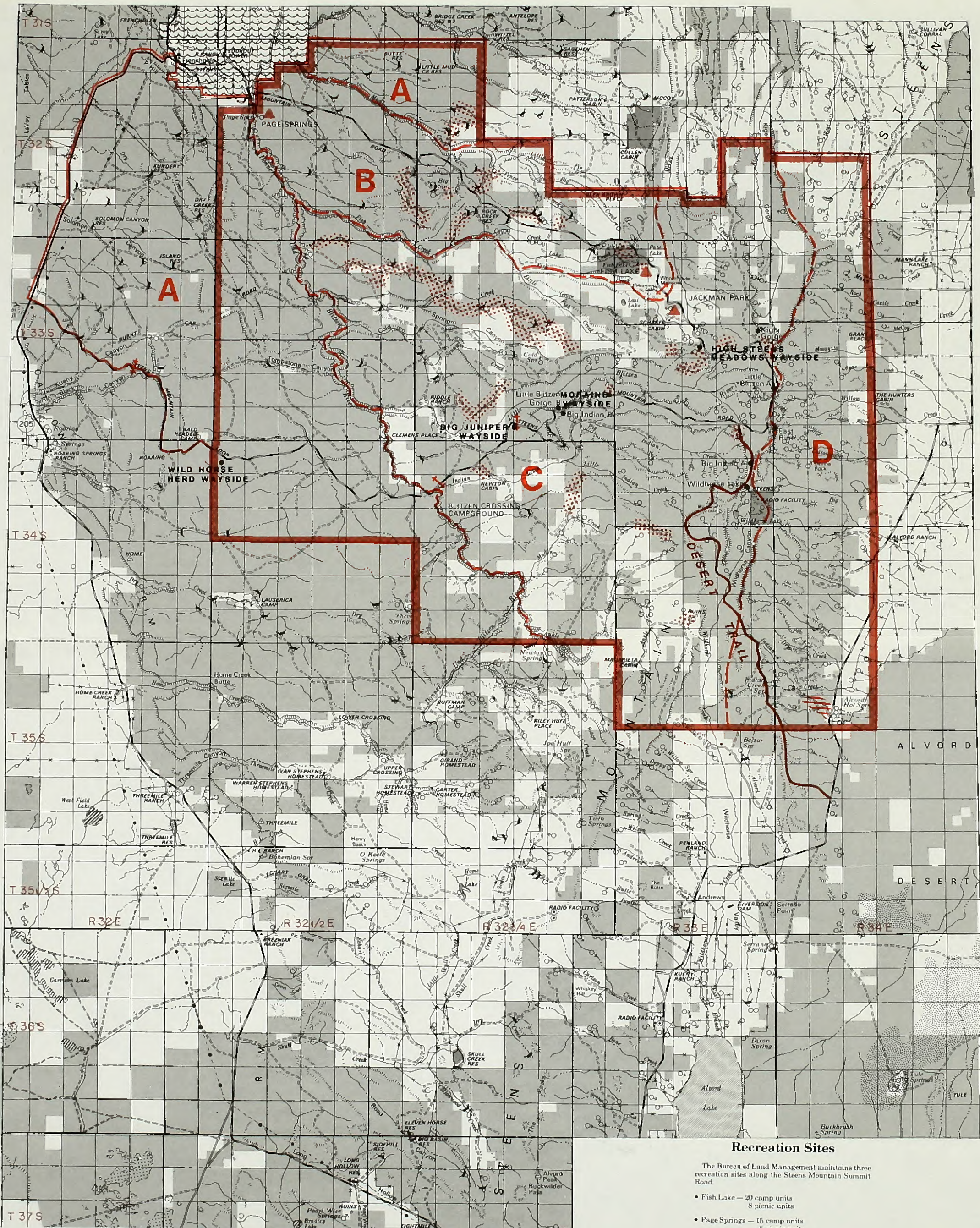
The area displays numerous unusual topographic features, as a result of vulcanism, faulting, glaciation, and wind and water erosion. Topography varies from flat deserts, rolling foothills and deep canyons to steep, rugged escarpments.

Landscape Character

The lower elevations of the Steens are characteristic of the Foothill and Plateau landscape. The views within the landscape vary. The overall visual impression is characterized by continuous rolling hills and flat-topped plateaus evenly covered by sagebrush and grass and dotted by juniper.

Though the rolling hills are the most typical landform in this characteristic landscape, the terrain varies greatly. The rolling hills intermix with U-shaped valleys, flat-topped volcanic plateaus with steep side slopes and river canyons with nearly vertical rocky walls. A linear quality is added to the landform by volcanic rim rocks that appear at ridge tops and at the edge of plateaus. The columnar weathering of this volcanic rock gives it a rough texture which contrasts with the smooth textured slopes. Sometimes, large boulders broken away from the rimrock will scatter over the smooth slopes creating an irregular pattern of rock and vegetation.

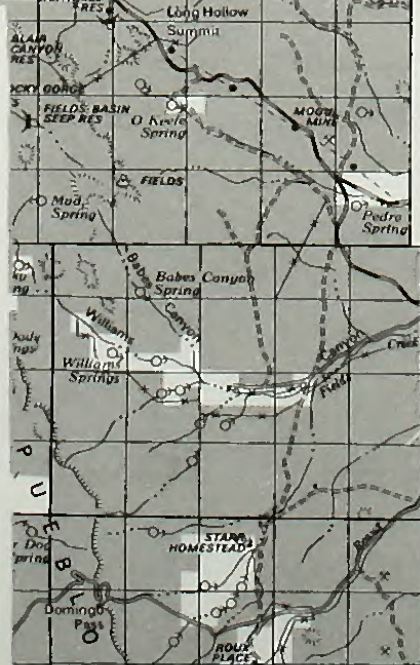
The middle elevations of the Steens have an identifiable character that is different from the foothill landscape that surrounds them. In the Mountainous Uplands characteristic landscape, the terrain is more rugged, higher in elevation and the vegetation is more varied. When traveling through



STEENS MOUNTAIN
U. S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District
1984

SCALE
0 1 2 3 Miles

MAP 1
Steens Mountain
Recreation Lands



Recreation Sites

The Bureau of Land Management maintains three recreation sites along the Steens Mountain Summit Road.

- Fish Lake — 20 camp units
8 picnic units
- Page Springs — 15 camp units
8 picnic units
- Jackman Park — 4 camp units*

All sites have fireplaces, toilets, and garbage disposal facilities. Trailer hookups, showers, or electricity are not available.

*No garbage disposal facilities — pack in - pack out

DATES ROADS ARE OPEN

A	MAY 1 - OCT. 31	C	JULY 1 - OCT. 15
B	JUNE 15 - OCT. 31	D	MAY 1 - DEC. 31
	ROADS CLOSED PERMANENTLY		ROADS OPEN YEAR LONG
	ORV BOUNDARY		OATES

	BLM		PAVED		RIMS & LEIGES
	STATE		GRAVEL		CATTLEGUARD & FENCE
	PRIVATE		OIRT		MINE & QUARRY
	MALHEUR NATIONAL WILDLIFE REFUGE		PRIMITIVE		SCHOOL
	STEENS MOUNTAIN RECREATION LANDS		SPRING		TRIANGULATION STATION
	COUNTY BOUNDARY		RESERVOIR		POWER LINE
	STATE BOUNDARY		WELL		VIEWPOINT & WAYSIDE
	RECREATION SITE		PIPELINE		CORRAL & CHARGO

this area, the views are often enclosed as a road winds between the ridges. Where a road crosses a ridge the views are panoramic, sometimes with distant views of well known landmarks.

The landform of high elevations is characterized by steep, rimrocked canyons and gorges which dissect the mountain. Interspersed between canyons are high, open meadows and small glaciated valleys. Highly eroded formations, massive rock outcrops, and severe surface variation are all evident. Glaciers have carved the fault block creating fantastic U-shaped gorges.

Climate

The climate is semi-arid, characterized by moderate summers and cold winters. Temperature variations are quite extreme with maximum summer temperatures rarely exceeding 80°F. at the higher elevations and may reach minimum winter temperatures of -40°F. The higher elevations of Steens Mountain are quite comfortable and a welcome change from the hot, lower elevations during the summer months.

Average annual precipitation varies from seven inches at the lower elevations in the Alvord Desert to twenty inches or more at the higher elevations. The majority of this moisture is received in the form of snow from November through March. Additional moisture is received in the form of rain or snow from April through June. Access to the higher elevations is limited by snow from late October through late June in most years. Snow is present in protected places at higher elevations most of the year.

Soils

Erosion hazards range from low to high because of the variety of soil compositions and terrain. The first group of soils is derived from basalt, rhyolite, or welded tuff and the soils are characterized by being shallow, clayey, very stony, and extremely stony. The second group of soils occur mainly in the eastern two-thirds of the area on gently undulating lava plateaus. These soils are derived from basalt, rhyolite, or welded tuff. The majority of soils are characterized as stony loams with shallow depths. The third group of soils consist of rough, steeply sloping areas that are predominantly shallow, very stony soils intermingled with rock outcrops. These areas occur in canyons and on escarpments.

Vegetation

The general vegetative complex for the lower elevations of the area is the typical semi-desert sagebrush-grass type association. The high rim areas are characterized by sub-alpine type

grassland. The overall complex includes a vast variation in species composition and association. Vegetative differences occur as a result of elevation changes with some plants restricted to relatively small zones while others are widely distributed.

Several species are believed to be endemic to the Steens Mountain area. Some of these are identified as follows: Steens Indian paintbrush, Steens whitlow grass, Steens thistle and small-leaved lupine. The Steens is also famous for its display of wild flowers.

Juniper is widespread particularly at the lower elevations along the rocky ridges and low productive sites. Aspen thickets occupy portions of the north facing slopes and areas where snow accumulates at intermediate elevations. The mountain is devoid of conifers other than juniper and two small stands of white fir (*Abies concolor*) which are present on private land in Fir Canyon. These stands are too small for commercial timber but do offer an interesting ecological study area. It is unknown whether they are a relic of a larger forest or newcomers to the area.

Steens Mountain has a large concentration of sensitive, threatened, and endangered plants, particularly above 8,000 feet elevation. It harbors the greatest diversity of plants and the largest concentration of sensitive species on the Burns District.

There is one species of federal concern (Steens Mountain paintbrush), approximately ten species of state concern, and seventeen of district concern. (See Appendix D for a list of these plants.) For some of these plants, the mountain represents their northern or southern range.

Some species are largely arctic-alpine, extending south into Oregon only on the Steens and the Wallowa Mountains in the northeastern part of the state (i.e., Sierra spring beauty, weak-stemmed stonecrop). Other plants considered sensitive may be widespread in distribution but are only known from limited population(s) on Steens.

Lily Lake, a permanent subalpine lake, is particularly vulnerable because wet meadows and marshes are such fragile systems and the moist organic soil and small herbaceous species are extremely susceptible to trampling damage. The shallow water near the edge of Lily Lake provides habitat for *Potamogeton diversifolius* (diverse-leaved pondweed). this is the only known location for this species in Oregon, and the population has a marginal existence, consisting of fairly small numbers.

Other areas of ecological importance are Kiger Gorge, Big Indian Canyon, Little Indian Canyon, Little Blitzen Canyon, Wildhorse Canyon, Wildhorse Lake, Little Wildhorse Lake, the Donner und Blitzen River Canyon, the Rooster Combs, and the South Fork of Willow Creek.

Water

Steens Mountain has two important watersheds administered by the Bureau of Land Management. There are 27 perennial streams which flow from the area as well as numerous intermittent streams. All of the glaciated gorges have creeks which includes Kiger, Little Blitzen, Big Indian, Little Indian, McCoy, Wildhorse and Little Wildhorse. A major portion of the water for the Malheur Wildlife Refuge comes from the western watershed, with the greatest amount supplied by the Donner und Blitzen River.

The heavy winter snowpack and springs on the mountain also provide water for the streams flowing into the Alvord Desert to the east. The normal run off pattern is characterized by high spring flow with low flows during the remainder of the year. Occasionally warm rainstorms produce high flows during the late winter and early spring months.

Many lakes and reservoirs are also present. A number of the lakes are important for recreation use and scenic beauty. Chief among these are Fish Lake (largest at 20 acres), Wildhorse Lake, Honeymoon Lake, Lily Lake, Pate Lake, and Lost Lake.

Fish and Wildlife

The Steens provides a diversity of wildlife due to the great variation in topography and vegetation.

The upper elevations of the Steens deserves special attention, as it contains some of the most unique habitat found on public lands in the western United States. The subalpine zone contains the largest area of sheep fescue in southeastern Oregon (Maser and Strickler 1978). Glacial cirques, talus slopes, high mountain lakes, ponds, and streams are all special habitats, seldom found on public lands.

Two uncommon mammal species found at the high elevations are the pika (*Ochotoma princeps*) and the northern water shrew (*Sorex palustris*). The pika lives in talus slopes and has been seen only at two locations in southeastern Oregon, Steens Mountain and Warner Rim. The northern water shrew has only been observed at one location in southeastern Oregon, on Steens Mountain. A subspecies of tiger beetle (*Cicindela montane chamberlaini*) is endemic to the area.

Belding ground squirrels, mantled ground squirrels, sage voles, least chipmunk, and northern pocket gopher are common small mammals.

The most common breeding songbirds using the subalpine in 1981 were Brewer's blackbirds, water pipits, rock wrens, canyon wrens, violet-green swallows, white-throated swifts, and horned larks. Horned larks were the most abundant species (Littlefield 1981).

Black rosy finches and gray-crowned finches were observed in 1981 breeding in the subalpine zone. This is the only area in the 48 contiguous states where both species have been observed breeding except for the Bitterroot Mountains in Montana (Littlefield 1981).

Mule deer are the most abundant big game animal on the Mountain. The Oregon Department of Fish and Wildlife has estimated that the deer herd fluctuates between 10,000 and 12,000 animals.

Rocky Mountain elk have been reported ranging from Ankle Creek north to Riddle Mountain. They were first observed in recent times by the Oregon Department of Fish and Wildlife in 1968. It is estimated that the herd numbers over 300 animals.

California bighorn sheep were historically abundant, but hunting pressure and parasites and disease introduced by domestic sheep were responsible for the decline of these animals. Eleven bighorns were captured at Hart Mountain National Antelope Refuge and released on the east slopes of the Steens in 1960 and 1961. The present population is about 250 animals.

Other well-known species are antelope, sage grouse, valley quail, mourning dove and chukar. The chukar partridge is a recent import that is now firmly established.

Beaver are the most numerous aquatic mammal. Beaver sign, both present and past, can be seen along almost every perennial stream.

Many raptors utilize the area, most of them foraging below 5,000 feet elevation. An exception to this is the large number of red-tailed hawks which move above the 6,900 feet elevation during the summer months. Some raptors that nest in the area are golden eagles, prairie falcons, kestrels, great horned owls, marsh hawks, Swainson's hawks, ravens, and turkey vultures. High nesting use occurs along the western boundary of the

Recreation Lands along Catlow Rim and Pickett Rim. The nesting density of golden eagles is probably the highest anywhere in the Great Basin region.

Many of the streams contain native redband trout, a species resembling rainbow trout, but genetically closer to California Golden trout. Fish Lake, near the Steens Loop Road, is stocked annually with rainbow trout. Wildhorse Lake is stocked periodically with fingerling-size Lahonton cutthroat trout.

Some other species of wildlife that live on the mountain are coyote, bobcat, cougar, black-tailed jackrabbit, yellow-bellied marmot, waterfowl, and numerous songbirds. Canada geese make considerable use of the Blitzen River Canyon from Fish Creek downstream as a feeding and loafing area.

Scenery

The Recreation Lands possess a high degree of landform and vegetative variety accented by strong color contrasts in rock and vegetation. There are many outstanding geologic structures and unique water features. A typical scenic drive would be as follows:

Leaving Frenchglen via the north loop road, visitors cross the Donner und Blitzen River and enter an area characterized by typical Oregon high desert vegetation. A few miles up the road, the juniper zone is entered. As the ascent continues, the well-defined juniper forest is left behind and the road emerges into open country with scattered patches of quaking aspen.

Lily Lake, lying adjacent to the loop road, is a favorite spot for picnickers and campers. A mile farther is Fish Lake, the largest lake on the mountain, which offers the contrast of aspen and blue water. From Fish Lake, the magnificence of the mountain is visible. There is an abundance of alpine bunch grass and wildflowers in the open meadows. Color is most noticeable in the vegetation rather than the predominant greys and blacks of the shallow, rocky soil. The dark green of the aspen groves and riparian vegetation in the canyons contrast greatly with the lighter green of the grasses in the meadows. The yellow color of the aspen leaves also gives contrast against the browns of the cured grasses in the fall.

Some of the most popular viewpoints overlook Kiger Gorge, the east rim and Wildhorse Lake. Several others overlook Little Blitzen and Big Indian Gorges as the visitors continue down the South Loop Road towards Blitzen Crossing and State Highway 205.

Visitors are high above the bottoms of the massive gorges carved by glacial action. The vast geological structure exposes the viewers to the sheer power of natural forces acting over eons of time. They can hear the creeks tumbling down to other levels from the huge cirques at the heads of the gorges and see the streams flowing through scattered groves of aspen far below. At the east rim overlook visitors look across rocky cathedrals and spires to the gleaming white Alvord Desert miles away. Mule deer can be seen feeding along the lower canyon level and bighorn sheep can occasionally be seen along the high rocky ledges.

Research Natural Areas (RNAs) and Areas of Critical Environmental Concern (ACECs)

The following areas are noted in the Andrews Grazing Management Program Environmental Impact Statement and were designated in the Federal Register on June 30, 1983. Specific activity management plans will be developed.

Steens Summit - This 50,500 acre ACEC on the upper mountain contains glacial cirques and valleys, and high mountain lakes, ponds and meadows, which provide high quality scenic value and unique habitats for plants and animals. Eleven species of Federal and State concern are found in this area. Two uncommon mammals are also found here: the pika, known only in one other location in Southeastern Oregon, and the northern water shrew, found only in the Steens in Southeastern Oregon.

Scenic values include the craggy base of the Steens Mountain escarpment and the vista of the Steens Mountain east rim, as well as the glacial cirques and valleys of Little Blitzen and Kiger Gorge. The area will be managed to protect the visual resources and any management activity changes must not be evident to the casual observer. The shallow rocky soils and short growing season make the area extremely fragile to any disturbance.

South Fork Willow Creek - This RNA contains a 228-acre portion of the cirque from which South Fork Willow Creek originates. Two major habitat types are found in this area:

- Alpine communities on Steens, including downslope snow accumulation areas and upper cirque communities.
- Stream system originating in a glacial cirque.

This area has no special management needs, since it is naturally protected by steep slopes on all sides.

Rooster Comb - This RNA includes the lower one and one-half mile of Little Blitzen Gorge above the Riddle Ranch, a total of 720 acres. The mountain mahogany community and black cottonwood riparian areas are in good condition, showing little evidence of cattle use. Cattle grazing will be limited to fall use to protect the riparian zone and maintain the condition of the RNA.

Little Blitzen

- This RNA includes the upper two miles of Little Blitzen Gorge, an area totalling 2,539 acres.

The designation was made to provide protection for fourteen rare plant species and six good condition plant communities or habitats.

The communities or habitats found here include:

- Mid to high elevation vernal pond;
- Stream system originating in subalpine;
- Aspen grove;
- Alpine communities on Steens Mountain including snow deflation and moderate snow cover communities;
- Late-lying snowbeds; and
- A token representation of a high elevation fescue grassland.

This area has one of the highest concentration of sensitive plants in southeastern Oregon. It is in the Steens Summit Allotment and will be fenced to eliminate grazing use.

Little Wildhorse Lake

- The boundaries on this RNA enclose a total of 240 acres of the shelf which contains Little Wildhorse Lake. This pristine high elevation lake, which is naturally protected from livestock grazing, is an excellent representative for the mid to high elevation lake cell.

East Kiger Plateau

- This 1,240-acre area is naturally protected by steep slopes on all sides. The boundary for the RNA follows the natural topographic edge of the plateau. East Kiger Plateau area fills cell need for high elevation fescue grassland with bunchgrasses (fescue and bluegrass) dominating the site. The area appears to have had little, if any, grazing in the past, and at present has no livestock grazing. Deer and reportedly bighorn sheep utilize the area.

Ecosystems found in the Steens Mountain are listed in Appendix E by Wilderness Study Area, using Oregon Natural Heritage Plan notations for identification.

Cultural Resources

There is evidence of prehistoric man living in the Steens, probably as long ago as 12,000 to 13,000 years. Evidence of the use of the area by early people before the arrival of the white man are found in petroglyphs carved on the surfaces of rocks, scattered small hunting campsites, and the habitation of shallow caves along the edges of the broad valleys and the foothills of the mountain.

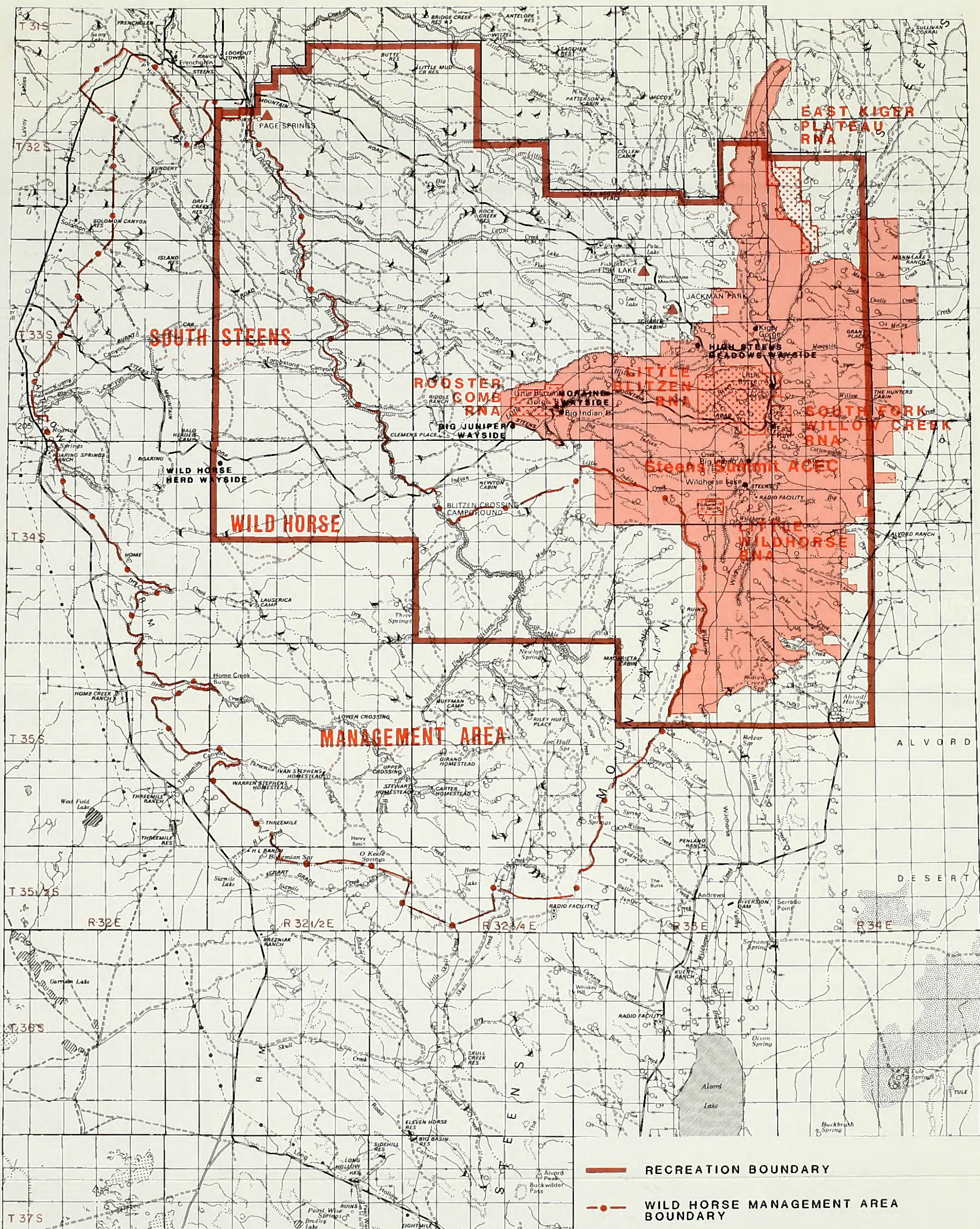
Scattered remnants of homestead cabins, lineshacks, sheep camps and associated features such as willow brush corrals, equipment, trash heaps, fences, and old roads can be seen, usually near spring sources or in the canyons. Most of the sites are on scattered 40 acre parcels of private land strategically located to control important water sources. Most of these sites date from the early 1900s with the passage of the Enlarged Homestead Act of 1909 and the Stock-Raising Homestead Act of 1916 as well as the era of heavy livestock grazing from the late 1890s through the mid 1930s.

Recreation

The combination of high scenic values, a rugged backcountry and primitive environment with a large land area to roam are a backdrop to all recreation opportunities. The significant recreation resources are keyed to the scenic and wildlife values as well as the high degree of solitude and physical challenge provided by the area. The scenery as part of the physical resources previously described draws people to participate in camping, hiking, backpacking and sightseeing.

The mountain habitat is conducive to the production of a variety of wildlife which draws the hunter, fisherman, and photographer. Deer, elk, antelope, valley quail mourning dove and chukar are the most commonly hunted game species. A bighorn sheep hunt is held annually in early September for the few hunters lucky enough to draw a once-in-a-lifetime permit. Trout fishing in the permanent streams is also an important part of the recreational use, while two small lakes provide many hours of fishing enjoyment. Fish Lake is easily accessible and Wildhorse Lake is available to those who enjoy fishing in a more remote area.

The season of use on Steens Mountain is short because of early heavy snowfall, impassable snowpack and wet weather in the spring, and the need to limit mule deer disturbance on their winter range.



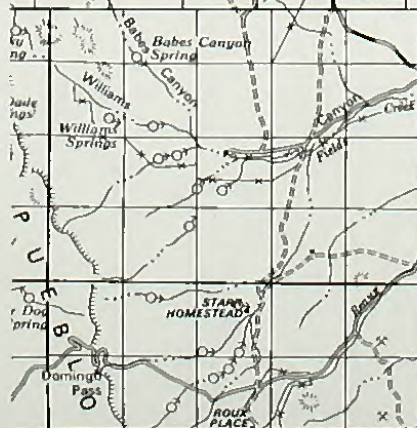
STEENS MOUNTAIN

U. S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District
1984

SCALE
0 1 2 3 Miles

MAP 2

Special Management Areas



The Steens Mountain Recreation Lands were designated for vehicle management with regulations becoming effective on September 30, 1980. The area is closed to motorized vehicle travel with exceptions by permit, from approximately November through June (this is subject to weather conditions) to prevent damage to the environment and road system, stress to wildlife, and for public safety.

Wilderness Study Areas

The Steens offer exceptional opportunities for natural or wilderness recreation experiences. The rugged east face escarpment, deep canyons and isolated plateaus provide the wilderness enthusiast with a variety of unspoiled natural settings removed from intensive public use areas.

A total of 191,350 acres, comprising six separate areas within and/or contiguous to the Steens Mountain Recreation Lands, have been identified by the Bureau of Land Management as Wilderness Study Areas. These WSA's are 1) High Steens 2- 85F; 2) South Fork Donner und Blitzen River 2-85G; 3) Bridge Creek 2-87; 4) Blitzen River 2-86E; 5) Little Blitzen Gorge 2-86F; and 6) Home Creek 2-85H.

Each WSA was found to be natural in character and to provide outstanding opportunities for solitude and primitive recreation.

These areas have been studied through the Bureau's land use planning process and will be analyzed further in the Statewide Wilderness Environmental Impact Statement to determine if they should be recommended to Congress for wilderness designation under the 1964 Wilderness Act.

Final wilderness recommendations will be submitted to the Secretary of the Interior for eventual Congressional and Presidential action. Until the wilderness review process has been completed, these areas must be managed so as not to impair their suitability for preservation as wilderness, subject to certain exceptions and conditions. The management of the WSAs is discussed in detail in the BLM Interim Management Policy and Guidelines for Lands Under Wilderness Review (December, 1979).

Military Operations

Southeastern Oregon is designated by the Department of Defense and the Federal Aviation Administration as a Military Operations Area (MOA). The MOA is used for training military pilots in low

elevation, subsonic flight in fighter- bomber type aircraft. The U.S. Air Force projects multiple flights per day over different flight patterns often at altitudes of 500 feet or less above ground level.

Range (Livestock and Wild Horses)

The Steens has been grazed by livestock since the 1870s. In the early days, the majority of the grazing use was made by sheep. Over the years, cattle gradually replaced sheep as the principal class of livestock. Today only one sheep operation remains within the boundaries of the Recreation Lands (see Map 2). That grazing use is on private property except for a trailing permit across public lands.

Currently, the Steens Mountain Recreation Lands contains all or part of ten allotments. Allotment Management Plans will be prepared following guidelines developed for grazing use in the Andrews Resource Area Management Framework Plan. (See Table 1.)

The Donner und Blitzen River is the eastern boundary of the South Steens Wildhorse Herd Management Area. Horse numbers have been set at a minimum of 150 and a maximum of 300 for this management unit. The herd unit extends into the southwest portion of the Recreation Lands.

Minerals

Bureau of Land Management records show that there is interest in and potential for mineralization within the Steens Mountain Recreation Lands although there is no current mining production.

A recent geochemical survey of the area indicates that there is low to moderate favorability for the presence of gold, silver, copper, mercury and molybdenum mineralization at several localities. Numerous mining claims have been located along the east face of Steens Mountain for mercury, uranium, and other locatable minerals, and many of these sites have been developed as mines or prospects. Deposits of zeolites are exposed on this side of the mountain as well as small deposits of thundereggs. There is some potential for small, localized deposits of diatomite throughout the area. To date, mining activities have been confined to the east slope of Steens Mountain at lower elevations, but recent exploration activities have extended to the west slope. Due to the steepness and rugged character of the east slope, existing mining activities in that area have not been significantly visible from higher elevations.

The portion of the southeast corner of the Recreation Lands which extends to the Alvord Desert has potential for deposits of sodium, potassium, and borates. Some exploration has been done for these resources, but there are no current leases or mining activity.

Oil, Gas, Geothermal

Oil and gas leases have been issued on most of the Recreation Lands. Although the area has some prospective value for this resource, no discoveries have been made to date. The leases generally contain stipulations which limit surface occupancy or disturbance in order to minimize conflicts with other surface uses.

The northwest and southeast corners of the Recreation Lands have potential for geothermal resources, with hot springs occurring in both areas. It appears that the northwest corner may have a low temperature geothermal resource suitable for direct use applications. The southeast corner of the Recreation Lands extends to include Alvord Hot Springs and a portion of the Alvord Known Geothermal Resource Area. Geothermal leases have been issued on a large area in the southeast corner along the east face of the Steens and the Alvord Desert. This area has potential for significant high temperature geothermal resources suitable for use in generating electrical power.

User Profile and Visitation Estimates

Recreation Activity Preference

Information collected for the Refinement of Recreation Opportunity Spectrum by Field Studies on Bureau of Land Management Lands in the Steens Mountain Area of Oregon conducted by Oregon State University in 1982 lists over fifteen "most important" recreation activity for visitors coming to the area. The outstanding recreation values were keyed to dispersed activities with sightseeing showing the highest percentage of users as a most important activity, followed by camping, lake fishing, hiking, and nature study. Recreationists whose most important activity was sightseeing were somewhat older than those indicating fishing or hiking as a preference.

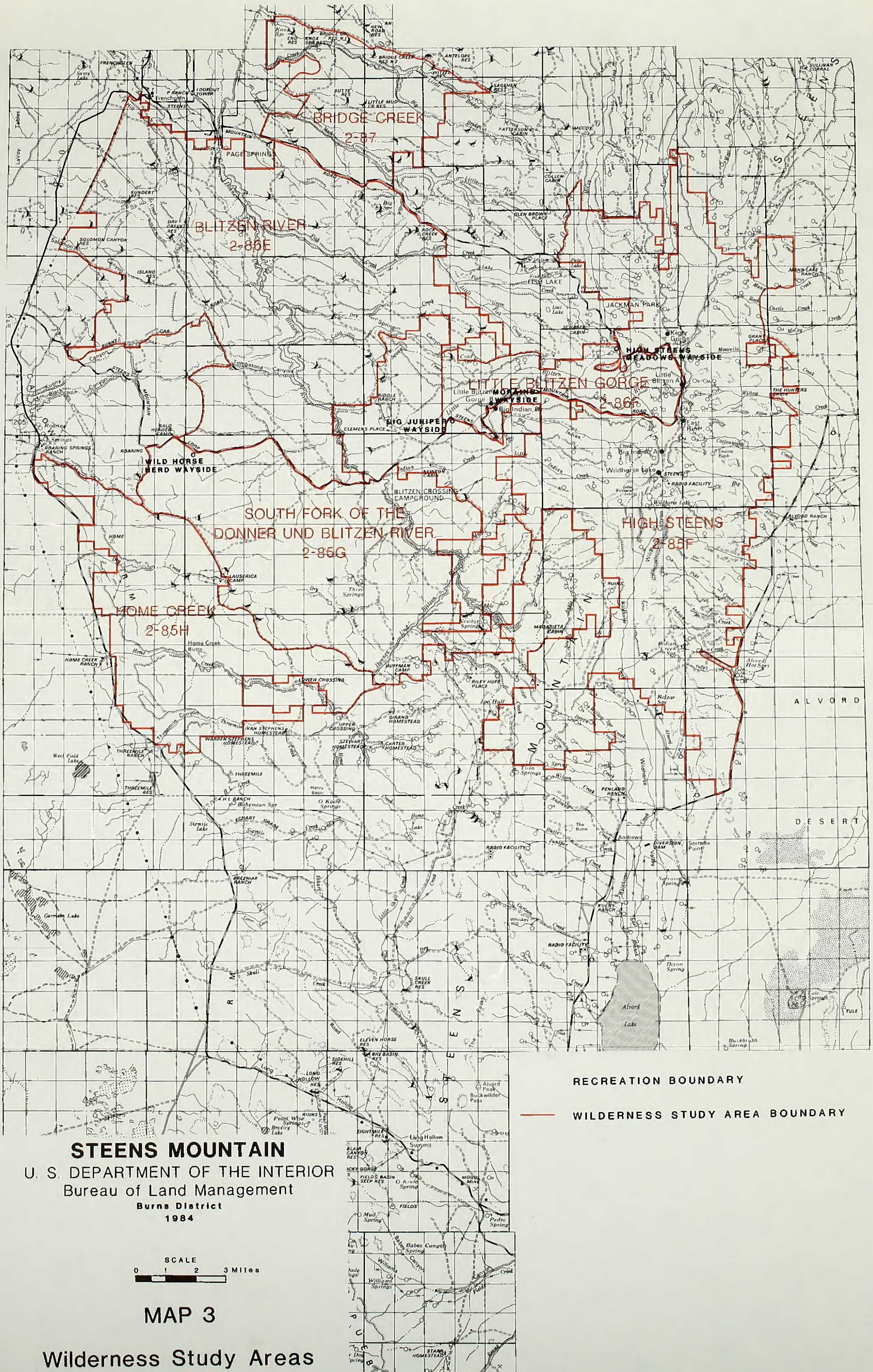
Big game hunting was the sixth most important activity, but it should be realized that the sampling was conducted during the summer months when hunting was not an activity of high preference. A separate report was prepared in October, 1980, to summarize information about deer hunter characteristics.

The study utilized the Recreation Opportunity Spectrum, which uses a method of placing recreation opportunities into six classes or settings: primitive, semi-primitive nonmotorized, semi-primitive motorized, roaded natural, rural and urban. This method of recreation opportunity planning is keyed to the idea that quality recreation experiences can best be assured by providing a variety of recreation opportunities (Clark and Stankey 1979, Driver and Brown 1978). The basic

Table 1 Steens Mountain Range Allotment

Allot No.	Allotment Name	Total Public Acres Within Allotment	Public Acres of Allotment Within Recreation Lands	% Public Acres of Allotment Within Recreation Lands	Total AUMs in Allotment	AUMS Within Recreation Lands	Existing Maximum Periods of Use
6002	South Steens	222,219	49,280	22	21,935	4,825	04/16 - 10/31
6003	Fish Cr.-Big Indian	26,480	26,480	100	1,410	1,410	04/16 - 09/30
6004	Steens Summit	4,890	4,890	100	-	-	No Use
6005	Mud Creek	8,654	6,400	74	561	412	06/01 - 06/30
6006	Frazier Field	28,754	19,840	69	2,215	1,528	04/01 - 10/31
6010	Otley Brothers	27,618	8,800	32	3,654	1,169	04/16 - 10/31
6012	Alvord	238,217	14,080	6	10,695	642	04/16 - 10/15 12/01 - 04/15
6013	Wildhorse Canyon	3,885	3,885	100	209	209	06/16 - 09/30
6025	Hardie Summer	1,232	1,232	100	413	408	07/01 - 09/30
6026	Mann Lake	37,852	5,760	15	3,600	540	05/01 - 06/15 11/16 - 02/28

AUMs based on same % as public acres within Recreation Lands (Column 3)



STEENS MOUNTAIN
U. S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District
1984

SCALE
0 1 2 3 Miles

MAP 3

Wilderness Study Areas

idea underlying the spectrum approach is that people participate in specific recreation activities in specific settings in order to attain desired recreation experiences such as solitude, being with family and friends or taking risks (Driver and Brown 1975, 1978).

Information taken from the Steens Mountain Recreation Study indicates three conclusions can be drawn about Steens Mountain recreations.

First, the recreation experience preferences of Steens Mountain users indicate that those users have distinct patterns in their expected and desired outcomes of recreation participation. Within these patterns are identifiable recreation experiences that are strongly influenced by resource management decisions. For example, one conclusion is that the Steens Mountain users prefer non-stressful recreation experiences, and those preferences could be reflected in the high percentage of users engaged in "leisurely" activities (sightseeing/auto driving, camping, nature study, photography, etc.). Although these users, for the most part, do not interact with the resource as much as recreationists engaging in more physical activities, several of the preferences (Scenery, General Nature Experience, Privacy, Escape Physical Stresses, and Escape Crowds) valued the most by these users are all dependent on the resource base that is directly controlled by Steens Mountain managers.

Second, Steens Mountain users engaging in different recreation activities have different preferences for recreation experiences. The largest and most consistent differences occurred between recreationists in activity groups "actively" using the Steens Mountain resource (fishermen and hikers, especially), and those users in activity groups 'passively' observing or using the resource (sightseers and campers). Even though most users prefer non-stressful recreation experiences, opportunities have to be provided for people preferring the active and self-motivating dimensions.

Third, Steens Mountain recreationists prefer resource management strategies that preserve the relative primitive and undeveloped nature of the area. This is reflected in their preferences for keeping campgrounds rustic and disapproval of rustic and disapproval of paving the Loop Road or increasing recreation development. This was also reflected in negative feelings toward seeing large numbers of other recreation users. Along with the lack of further development, however, recreationists queried for this study were not in favor of actions restricting present access by automobile to the area. Closing even a portion of the Loop Road met with disapproval.

Vehicles and Other Specialized Equipment

A visitor use analysis conducted by the Bureau in the summer of 1980 indicated most visitors (82%) used 2-wheel drive vehicles (includes motorcycles) while only 1.3 percent used 4-wheel drives. Generally, vehicles were not used off established roads for the purpose and challenge of off-road vehicle sport, but as a means of engaging in some other recreational activity. The major activity for which ORVs were used was sightseeing during the summer season while hunting accounted for the majority of use in late fall.

There is a limited amount of snowmobile use during the winter. Snowmobiling takes place late in the season when areas nearer the local population centers are no longer usable. Access to the mountain is limited by an ORV designation which regulates vehicle use during this season. Most recreation activity is around Fish Lake where local groups gather for day outings. There is also minimal administrative use by the Bureau and some specially permitted uses by other agencies including the Soil Conservation Service for annual snow surveys.

Seasons and Times of Use

The season of use can generally be established as a five month period, the summer and fall seasons when the area receives its highest use. The upper elevations are closed most years from early November to the first week in July. Usually by the 4th of July the Loop Road is opened to Fish Lake and visitors begin using the campground and fishing in the lake.

Prior to the opening of the Loop Road to the upper elevations, Page Springs and Blitzen Crossing are high use sites. The opening of the general trout fishing season the third week in April and the group use of the campgrounds by schools and universities on field trips account for the majority of the early season visitation.

The highest use days are the holiday weekends of July 4th, Memorial Day, and Labor Day. After the Labor Day weekend, visitation drops until the beginning of deer hunting season. Then, for a period of approximately two weeks, hunter camps are scattered around the mountain.

A controlled elk hunt has been established in the past several years that could become an annual hunting season. This extends visitor use into November, but hunting has often been cut short by early winter snowstorms.

Length of Stay and Party Size

Three visitor studies have been conducted in recent years, 1976, 1979, and 1980. The average number of persons per party and length of stay vary, so data is shown by study and specific sites where available.

The average persons per party and average length of stay is as follows:

Length of Stay and Party Size Table

	1976	1979	1980
Average Person/Party	3.0	2.9	3.95
Average Length of Stay in visitor days (12/hr period)	5.1	3.6	4.7

No visitor data for specific sites other than the entrance points was calculated for 1980. However, the following sites were singled out for inventory in 1976 and 1979:

Visitor Data Table

	1976		1979	
	Average Persons/ vehicle	Average Length of stay (visitor days)	Average Persons/ vehicle	Average Length of stay (visitor days)
N. Loop Entrance	3.1	3.9	2.9	3.2
S. Loop Entrance	2.9	2.9	3.1	1.8
Page Springs	3.2	5.6	3.8	9.1
Fish Lake	3.1	8.5	2.8	5.3
Blitzen Crossing	3.3	9.1	2.8	27.9

The cumulative for average persons per vehicle was 2.60 for the north and south loop entrances in 1980. The average party size was 4.5 persons for deer hunters during that year's season.

Place of Origin

The 1979 and 1976 visitor use studies both indicated approximately 87% of the visitors originated in Oregon while 82% came from Oregon in the 1980 study.

The following tables show some changes in percentages for place of origin during the five year time span of the studies.

Origin of Visitors

	1976(%)	1979(%)
Harney County	12.7	31.1
Eastern Oregon (excluding Harney County)	15.7	17.3
Western Oregon*	58.6	39.1
Washington	3.7	4.7
California	3.0	2.1
Idaho	1.8	0.4
Nevada	1.2	1.0
Other	3.3	4.2
	100.0	100.0

*The division of Eastern and Western Oregon is the Cascade Divide.

	1980(%)
Eastern Oregon	30.6
Willamette Valley & Coast	36.4
Southwestern Oregon	15.2
Washington	6.5
California	0.9
Idaho, Nevada, Utah	3.7
Others	6.7
	100.0

*Categories for 1980 Origin of Visitors are different from 1976 and 1979.

Visitation Estimates

The BLM has kept records of visitations on file at the Burns District Office since 1975. Use figures for the past eight years indicate approximately 19,300 people visit the area each year and expend 111,800 visitor days for various recreation activities.

Visitation has fluctuated from a high of 24,450 in 1976 to a low of 16,190 in 1979. Gasoline shortages and increased fuel costs created a decrease in visitation for 1979.

The following table shows demand projections for recreation activities in the Pacific Northwest based on projection of participation by annual average percentage increases.

Table 2 Demand Projections

	1977-1989 Annual Average Increase (%) (1984)	1990-2000 Annual Average Increase (%) (1994)
Camping		
Developed	1.28	2.76
Dispersed	1.28	1.50
Picnicking	1.01	1.17
Fishing	1.15	1.90
Hunting		
Big Game	1.22	1.14
Small Game	.45	1.42
Upland Game	.45	1.42
Waterfowl	1.48	1.25
Sightseeing	1.01	1.09
Watersports	1.15	1.15
Wintersports	1.61	1.59
Off-Road Vehicle	.74	1.04

Source: U.S. Forest Service, An Assessment of the Forest and Range Land Situation in the United States, January 1980.

The Management Framework Plan, developed in 1980, utilizes the preceding annual average percentage increases projects a 28.5 percent increase in outdoor recreation related visits for Andrews Resource Area for the 15-year period 1979-1994 (1.9% annually). The data was used to project recreation use for Steens Mountain for the 10 year period 1983-1993. The following table illustrates this projection.

Major Issues

Successful planning and management can only be achieved by recognizing and resolving important issues. This section identifies those issues to be considered in the management plan presented in Part III.

Issue 1 - Degree of Administrative Control

Comment

Continued increase in recreation use, particularly with groups, has focused attention on the need to closely manage use of the Steens Mountain. The stages in the intensity or amount of management and methods of administration will require thorough examination before implementation.

Considerations

Administration

- Wilderness Study Area Designations;
- Designated and proposed Areas of Critical Environmental Concern/Research Natural Areas;
- Special Recreation Use Permits;
- High Desert Trail route/other trail routes.

Supervision

- Law Enforcement/Search & Rescue/Visitor Safety;
- Recreational Use Monitoring;
- Visitor Use Allocation System;
- Public Information and Education Program.

Facility Management

- Facilities Operation and Maintenance
- Present Developments
- Future Developments
- Signs Program

Area Access

- Upgrading of existing roads;
- Closure of certain existing roads;
- New access development.

Actual Use

Year	Visitor Days Visitors per Year	per Year
1974	Not available	Not available
1975	18,950	113,604
1976	24,450	127,226
1977	20,478	115,081
1978	20,500	105,410
1979	16,190	81,756
1980	17,577	116,294
1981	20,231	129,527
1982	16,353	105,747

Projection Using Previous 8 Year Average

1983	19,300	111,800
1984	19,667	113,924
1985	20,040	116,089
1986	20,421	118,294
1987	20,809	120,542
1988	21,205	122,832
1989	21,607	125,166
1990	22,081	127,544
1991	22,436	129,968
1992	22,863	132,437
1993	23,972	134,953

*Visitor day = 12 visitor hours which may be aggregated continuously, intermittently or simultaneously by one or more persons in an activity not associated with the pursuit of a gainful occupation.

Issue 2 - Environmental Protection/Compatibility of Land Uses

Comment

Steens Mountain has been identified and designated as "recreation lands" as set forth in the Code of Federal Regulations, Title 43, Part 2070. Prior to designation, hunting and fishing drew many of the visitors, but other outstanding values are now recognized. These values could be significantly altered or destroyed by poorly conceived activities or projects.

An integration of all resource uses becomes more important as visitor numbers continue to increase and other natural values are being identified each year. There are conflicts not only with other resources but also within recreation where a balance must be maintained to protect the environment while realizing the opportunities the area offers.

Protection of areas from excessive recreation, grazing and other potentially damaging uses is essential for an ongoing viable management program.

Considerations

Multiple Resource Uses

- Motorized Vehicle Use;
- Winter Sports Use;
- Livestock grazing in canyons and upper elevations;
- Recreation Use Conflicts;
- Land and Mineral Regulation.

- Mining Claim Regulation.

Wildlife Values

- Bighorn Sheep;
- Redband Trout;
- Deer Winter Range.

Cultural Values

- Site Protection.

Issue 3 - Land Ownership

Comment

Realty actions to acquire specific parcels as they become available would enhance recreation use and management.

Considerations

Acquisitions:

- Land Base Adjustments involving Private Lands;
- Land Base Adjustments involving Oregon State Lands;

Easements:

- Scenic Easements Across Private Lands.
- Access Easements on Private Land.

Issue 4 - Management Cooperation With Other Agencies And Private Entities

Comment

While most of the land within the boundaries of Steens Mountain Recreation Lands is managed by BLM, several other federal, state, and local government agencies and private individuals have vested interests in the resources on the Steens Mountain and its surrounding lands and waters. BLM cannot effectively manage the Mountain without their support and cooperation and should explore ways of improving formal communication involving resource management.

Considerations

Federal Agencies

- Soil Conservation Service;
- U.S. Fish & Wildlife Service.

Oregon State Agencies

- Department of Fish and Wildlife;
- Marine Board; - Division of State Lands;
- Water Resources Department;
- State Historic Preservation Office;
- State Parks and Recreation Branch;
- State Police.

Local Agencies

Harney County, Oregon.

Military

- U.S. Air Force.

Private Landowners

Part II - Management

Objectives and Constraints Steens Mountain meets the criteria for "Recreation Lands" recognition since it: 1) is several thousand acres in size; 2) is an area where outdoor recreation is or is expected to be a major use and 3) provides outstanding opportunities for the public to participate in a multiplicity of recreation activities.

Management Objective

The Steens Mountain Recreation Lands shall be managed to provide recreation opportunities in a class ranging from "primitive" to "roaded natural" that will promote:

- The preservation and restoration of the area's ecologic, geologic, natural, scenic, and cultural resource values;
- The provision of visitor and resource management to enhance opportunities for high quality outdoor recreation experiences, education and scientific study to the extent the natural and cultural characteristics of the mountain environment are not degraded; and
- The protection of the area's wildlife habitat.

Management Constraints

Factors which, because of law, policy, regulation or circumstance, (see Appendix B) influence the development of a management program presented in Part III include:

- The Bureau does not have exclusive ownership of the lands within the boundary of the Steens Mountain Recreation Lands. Approximately 21.5% of the land area is owned by private individuals, and the State of Oregon.
- The State of Oregon will retain the mineral estate of all lands transferred to the Bureau.
- Steens Mountain is one of the more important watersheds administered by the Bureau in Oregon.
- Steens Mountain is recognized statewide as a high quality trout fishing and big game hunting area. The Oregon Department of Fish and Wildlife enforces fishing and hunting regulations and manages the wildlife resources.
- Many of the waters contain native redband trout, a "wild trout" which is well adapted to the desert stream environment. Some streams are a source of brood fish to provide eggs for stocking other streams.

- Bighorn sheep have been re-established in portions of the high Steens which includes the rough east face and Wildhorse Canyon.
- A Wild Horse Herd Management Area is within the southern boundaries of the Recreation Lands.
- Portions of the mountain are included within six Wilderness Study Areas (WSAs).
- Six areas are designated as Areas of Critical Environmental Concern (ACECs) or as Research Natural Areas (RNAs). The designations are recognized for visual, plant, wildlife and raptor values.
- The mountain environment is easily damaged by vehicle use. An off-road vehicle designation is in force which regulates vehicular travel according to seasons of use.
- A number of significant historic and prehistoric sites are within the boundaries of the "Recreation Lands".
- Hazards exist for visitors in the form of sudden severe storms, extreme temperature changes, high winds, and steep cliffs.
- A radio facility on state land is critical for communication throughout the county.
- Sites for congregation and camping by large groups of people are limited.

Part III - The Management Plan

The Management Plan involves 31 separate actions to resolve issues and accomplish management objectives. The five major issues identified and discussed in Part I are listed along with the planned management actions which need to be implemented. Alternatives to the actions discussed in this section are presented in Appendix C.

Issue I - Level and Degree of Administrative Control

A. Administration

Action I.A.1. - Wilderness Study Areas

Continue interim management of the existing WSAs under mandates established by the Federal Land Policy and Management Act of 1976 until Congress acts to create Wilderness Areas. At that time wilderness management plans will be written for those specific areas.

Discussion

There are two different practical effects of these "interim management" mandates. First, those grazing, mining, and mineral leasing uses which existed on October 21, 1976, may continue in the same manner and degree as on that date, even if they do impair wilderness suitability, so long as they do not cause unnecessary or undue degradation of the lands and their resources. Second, uses and activities other than the grandfathered uses may be permitted in WSAs so long as they can take place without impairing the suitability of the area for preservation as wilderness.

Action I.A.2. - Areas of Critical Environmental Concern/Research Natural Area Designations

Develop and implement management plans to protect the areas designated as ACECs or Research Natural Areas and continue to inventory for cultural, natural, scenic, wildlife and plant community or habitat types that need protection or are in good condition and need representation in the Oregon Natural Heritage Plan.

Discussion

The Federal Land Policy and Management Act of 1976 states an Area of Critical Environmental Concern is "an area within the public lands where special management attention is required (when such areas are developed or used, or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or

scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards" (FLPMA Sec 103[A]).

The Code of Federal Regulations Part 43, Subpart 8223, defines a Research Natural Area as "an area that is established and maintained for the primary purpose of research and education because the land has one or more of the following characteristics: (1) A typical representation of a common plant or animal association; (2) an unusual plant or animal association; (3) a threatened or endangered plant or animal species; (4) a typical representation of common geologic, soil, or water features; or (5) outstanding or unusual geologic, soil, or water features".

The mountain has been inventoried for various natural values and it was determined in the Bureau's planning process that there are specific areas that have outstanding scenic values and critical wildlife and botanical values that need protection. Certain RNAs and ACECs identified in the Andrews Land Use Plan were designated on June 30, 1983.

Action I.A.3. - Special Recreation Use Permits

Require special recreation use permits for individuals and groups in those cases involving specific recreation, scientific study and education activities which affect the recreational use of the other visitors, or have an impact on the area's resource values, including competitive and commercial use of the public lands. Fees may or may not be charged depending on the Bureau's determination of commercial or competitive use. Determination will be made on a case-by-case basis with specific stipulations regulating use. Organized groups of 15 or more people that intend on camping more than a 4-day length of stay will be required to obtain a recreation use permit.

Discussion

Special recreation permits are issued for specific recreational uses of the public lands and related waters. They are issued as a means to control visitor use, to protect recreational resources, and as a mechanism to accommodate commercial recreational uses. Authorized by the Land and Water Conservation Fund Act, there are four types of uses for which these permits are required-commercial, competitive, off-road vehicle use involving 50 or more vehicles, and individual or group use in special areas. Steens Mountain is managed as a special area. Fees are charged for these permits to meet two objectives: primarily, to recover the cost of issuing and administering the

permits; and, where possible, to provide a return for commercial/competitive use of public lands. Permits have always been required for commercial activities.

A permit system can alleviate problems arising when groups utilize the sites and areas during the same periods of time. Lack of coordination between the Bureau and groups has perpetuated this problem. In addition, resource knowledge from inventories and research projects conducted by field classes from various colleges and universities are not made accessible to the Bureau as part of a permit stipulation. Educators and specialized groups use the public land and facilities without required permits, thus the Bureau's use data, resource knowledge, locations and magnitude of projects are not current.

Action I.A.4. - High Desert Trail Route/Other Trail Routes

Develop and manage the corridor route for the High Desert Trail and additional trails for a system to accommodate and enhance the primitive and back country recreation experience offered by the area.

Discussion

The Desert Trail is a recognized component of the Oregon Recreation Trails System. The development of this trail and other trails will provide another means for the public to utilize the recreation values of the area without developing additional high cost and high maintenance roads with accompanying facilities. The development of a trail system can be another tool to manage and regulate visitor use in this top quality recreation area.

The Desert Trail has been established through the Steens Mountain Recreation Lands. The trail uses the "corridor concept" in which there is no clearly defined or maintained path to follow. Instead, the hiker chooses his own route through an established corridor. A guide has been printed and cairns have been built in strategic locations. This trail route and other trails that are established will be used primarily in the summer season because of the harsh winter weather and violent storms that close the upper elevations.

The Bureau and the Desert Trail Association have entered into a Cooperative Management Agreement that outlines the responsibilities of each group. These include trail design, maintenance, and publication of maps and trail guides.

B. Supervision

Action I.B.1. - Law

Enforcement/Search and Rescue/Visitor Safety

Establish a cooperative law enforcement and search and rescue agreement with the Harney County Sheriff's Office to act as the agent to enforce regulations, provide visitor protection and act as a deterrent to vandalism and destruction of facilities and the natural resources. The agreement will outline the responsibilities of the two agencies and the amount and type of assistance the BLM can provide when requested by the Sheriff's Office.

Discussion

The Bureau does not have the law enforcement or search and rescue capabilities in the form of trained and experienced personnel to provide visitor and resource protection in the district. However, since BLM personnel are familiar with the area and BLM equipment may be most available, full cooperation and support should be given to the law enforcement agencies.

Action I.B.2. - Recreational Use Monitoring

Monitor the resource impacts of recreation use through:

1. Periodic road and backcountry patrols by vehicle, foot or horse.
2. Continuation of locating traffic counters at strategic locations to record visitors entering and leaving the area and using specific sites.
3. Recordation of group numbers and purposes for using mountain.
4. Issuance of recreation use permits for commercial, competitive and specific recreational, scientific study and educational uses.
5. Periodic visitor use analysis as visitor numbers and/or recreation uses change from the present pattern.

Discussion

Monitoring is essential to correlate use levels with resource condition and capacity. Monitoring will precede establishment of a recreation use allocation system for commercial and noncommercial uses if increased visitor numbers warrant the need.

Action I.B.3. - Visitor Use Allocation System

Action Reserved. The current use level does not yet warrant this.

Discussion

A system to enforce visitor carrying capacities and allocate use among user groups will not be implemented until monitoring indicates that physical or social use levels are being reached, recreation use is causing unacceptable resource damage, or that national policy mandates an allocation system be established. The principles for implementing a recreation use allocation system will be developed in a national BLM policy expected at a future date.

Action I.B.4. - Public Information and Education Program

Develop an interpretative program for users which focuses on:

1. Campsite locations and capacities.
2. Off-road vehicle use.
3. Visitor awareness of outstanding natural, scenic and cultural resources.
4. Environmentally acceptable visitor behavior which will protect cultural resources, wildlife habitat and populations, the natural character of the mountain and the enjoyment of the area by recreationists.

Discussion

Providing information about how visitors can best conduct themselves could alleviate potential resource conflicts, as well as the need for additional management actions. Using brochures, trail guides and maps rather than numerous interpretive signs would be the method to provide this information. These materials would also compliment the monitoring program.

C. Facility Management

Action I.C.1 - Facilities Operation and Maintenance

Operate and maintain the existing BLM recreation sites and rehabilitate substandard facilities identified during annual maintenance inspections as needing repair or replacement.

Discussion

The recreation sites represent a substantial investment and constitute BLM's existing operations. Regardless of future development, a minimum level of service (related to operating, maintenance and facility repair or replacement) must be maintained to allow the existing recreation site system to continue functioning at safe and acceptable standards set by the Bureau and State health agencies.

Action I.C.2 - Present Developments

- Upgrade the campground area at Jackman Park to provide group camping capability.

Discussion

This small area is receiving a greater amount of impacts than is necessary from large groups utilizing the campground for extended time periods. Upgrading the campground and adding facilities will alleviate some of the pressure from concentrated human activity, as well as providing a designated site where groups can stay for periods of time without monopolizing family unit sites at other campgrounds.

- Provide a water system that meets Federal and State water standards for potable water in a public camping area at Jackman Park.

Discussion

At this time users of Jackman Park must drive to Fish Lake to get potable water or boil water from the nearby small spring. A reliable water source at the site would provide an increased measure of public safety as well as improve the camping experience for visitors.

- Provide better definement of campsites at Page Springs and Jackman Park.

Discussion

The individual campsites at these recreation sites are not clearly defined. Better management of the area would be possible if vehicle parking and layout of campsites was followed according to approved recreation management and site plans. Specific sites should be closed periodically to allow natural revegetation and revitalization of run-down areas.

- Maintain conditions at Page Springs to provide opportunities for the public to observe beaver, waterfowl, raptors and other wildlife that utilize the spring water, ponds, streams and cliffs within the area.

Discussion

Major disturbing activities and projects would destroy or significantly alter the natural resource values which combine to make the area unique. Prohibiting such activities and projects within the boundary of the area would ensure preservation and protection from all but major natural catastrophic events.

- Upgrade and maintain the nature trail at Page Springs including development of interpretive signing and/or a brochure to note plant types and other natural features.

Discussion

The nature trail at this recreation site has not been kept in a condition that induces visitors to use the trail. Upgrading this recreation development will enhance the interpretive opportunities available in the area and provide a positive approach to raising the standards of the recreation site and the Bureau's public image.

Action I.C.3. - Future Developments

- Develop another campground on the South Loop Road now that Blitzen Crossing is closed.

Discussion

Blitzen Crossing is on a floodplain and floods can cover the entire area. This is a hazard for campers and causes destruction of property each time the Donner und Blitzen River floods. There is a problem in finding an alternate site at a low elevation for developing another small campground. There are no alternate sites on public land at the general elevation of Blitzen Crossing. A site has been located at a higher elevation by the Bureau which may be suitable and is away from any stream. However, Interim Wilderness Management restrictions may curtail any development within the boundaries of the Wilderness Study Area where the site is located.

- Develop campgrounds on both the North and South Loop Road specifically for groups using horses.

Discussion

Demand is increasing for sites that are suitable for groups using horses. Sites should be located and developed in areas away from other visitors for safety and health standards with a water source not located in a stream's riparian zone. The area must be large enough to construct a 20 site campground, a small corral and feeding area and park 20-25 horse trailers and vehicles. Access must be in good condition to provide travel by trucks and horse trailers without damaging equipment or injuring animals.

- Develop and manage sites at eleven locations for vehicular sightseeing opportunities.

- (1) Kiger Gorge Overlook
- (2) High Steens Meadows Wayside
- (3) Little Blitzen Canyon Overlooks (2 sites)
- (4) East Rim Overlook
- (5) Big Indian Canyon Overlooks (2 sites)
- (6) Wild Horse Lake Overlook
- (7) Moraine Wayside
- (8) Big Juniper Wayside
- (9) Wild Horse Herd Wayside

Discussion

Specific recognition of resource values that are of recreational, educational, and scientific interest need to be brought to the attention of the public. Interpretation will increase the knowledge and understanding of the resource opportunities on Bureau administered lands. It will increase the public's awareness of the Bureau's management role as well as improve the Bureau's public image as a resource management agency.

- Develop parking areas or "pull-outs" at or near the points of observation where vehicular parking space is needed.

Discussion

Controlled vehicular parking is necessary to avoid random parking along roadsides to protect the environment and to promote visitor safety.

- Provide designated overlook points where needed with surfaced walkways, walls or fencing, an informational warning signs. Developments will include provisions for the handicapped.

Discussion

Various interpretive and sightseeing locations are at overlook points where safety of the visitor must be given highest priority because of a combination of high, unexpected winds, the edges of deep canyons and often times uneven, rocky walking surfaces.

- Provide interpretive facilities at the identified interpretive sites where a description of the viewed features would assist visitors in orientation.

Discussion

Since the development of scenic overlooks and interpretive sites are solely for the benefit of sightseeing visitors, the provision of interpretive facilities for orientation and information purposes would augment their recreation experience.

- Develop a visitor center/administrative site near Frenchglen for disseminating information to the public, providing visitor safety and protection, and enforcing management regulations. At first this can be a small roof-covered shelter containing information panels, map box and public message board. Through the years, additional developments can be constructed to provide services as the need arises to keep pace with visitor use and resource management.

Discussion

A visitor center would provide services to enhance the Public Information and Education Program (Action I.B.4.) as well as a closer site from which to administer the area. The visitor center would be developed as a cooperative facility with the Bureau, Malheur National Wildlife Refuge, Oregon Department of Fish & Wildlife, Harney County and possibly the private sector if such a facility meets the interpretive needs of the various cooperators.

The acreage would be large enough to include space to construct a future visitor center with administrative offices, wareyard and maintenance building, visitor and employee parking and housing for employees.

Action I.C.4 - Signs Program

Provide signing for essential services including traffic management, facility and recreation use management at specific locations on the mountain.

Discussion

Signing, following a sign plan, is necessary for safety, providing direction and information and is essential for implementing an interpretive program. However, emphasis will be toward limiting sign numbers. See Action I.B.4 for the features an interpretive program should address.

D. Area Access

Action I.D.1 - Upgrading of Existing Roads

- Upgrade the North Loop Road from Lily Lake to Wildhorse Lake Overlook to a high standard gravel road that will allow safe travel of passenger cars. This also includes the access roads into Kiger Gorge Overlook and the East Rim Overlook.

Discussion

The majority of the visitors drive from Frenchglen and Fish Lake Campground to the Wildhorse Lake Overlook and retrace their route after a few hours of sightseeing. The road from Lily Lake to the Wildhorse Lake Overlook has not been upgraded

and gravelled as has the lower section. The spring thaws create deep gullies down the road and some areas are rough and rocky. Passenger cars with low ground clearance have difficulties travelling over this upper section and are damaged at times. Annual maintenance problems can also be reduced or eliminated if this road section is built to higher standards.

- Keep existing roads other than the Steens Loop Road at their current low standard of construction to allow passage of high clearance vehicles.

Discussion

Low standard roads are compatible with providing recreation opportunities in a setting ranging from an essentially unmodified environment to one that is generally natural with moderate evidence of the sights and sounds of man. At times roads may be graded to allow passage of firefighting equipment, maintenance of reservoirs or other administrative uses at lower elevations. However, the existing roads other than the Steens Loop Road are not maintained on a regular schedule and, after a period of time, a graded secondary road at the lower elevations returns to a low standard of condition.

Action I.D.2. - Steens Loop Road Access

Keep the Loop Road open for vehicular travel during weather conditions when there would be no damage to the road.

Discussion

This management action would be in force until Congress makes a decision on wilderness designation of the upper Steens Mountain. High maintenance costs and administration of visitor use are concerns. When the resources are being compromised or the administrative costs exceed the capability to meet the management needs, the policy would be reviewed and modified to be a viable and positive action again.

Action I.D.3. - New Access Development

Develop no new roads to allow motorized vehicle use in the subalpine zone, or identified riparian zones.

Discussion

It would be impossible to maintain the natural recreation resource values in these fragile environments if the area is subjected to continued manipulation justified by the need to provide

additional motorized vehicle access. Using on-site sources of materials to maintain or upgrade present improvements is not compatible with protection of this environment.

Issue II - Environmental Protection

A. Multiple Resource Uses

Action II.A.1. - Motorized Vehicle Use

Continue to manage vehicle use according to the off-road vehicle designation that was put in force in September, 1980, in accordance with Executive Order 11644. Changes, as necessary, will be made to protect the mountain environment.

Discussion

As stated in the Federal Register Notice, "Past and present use of these public lands has caused damage to the Steens Loop Road and adjacent lands mainly during the spring runoff period before snowbanks have melted and the late fall and early winter period when the first snowstorms begin. Road maintenance costs are increased annually because of motorized vehicle travel on the road system during these time periods. Restrictions are needed to eliminate animal stress due to presence of people and vehicles at low and intermediate elevations (below 7000') during late winter and early spring on deer and antelope winter ranges. Restrictions are also needed to reduce visitor impact on fragile, high elevation subalpine vegetative types of cross-country vehicle travel and by indiscriminate establishment of new trails and ways. Public safety is a factor since much of the damage to the environment results from people getting stuck and sometimes stranded during periods when access is poor due to weather conditions." Opening of roads will be by weather conditions rather than set dates.

Action II.A.2. - Winter Sports Use

Allow cross-country skiing, snowmobiling, dog sledding and other recreation winter activities on a permit basis that complies with the present off-road vehicle designation.

Discussion

Winter recreation activities can take place on the upper Steens without causing impacts that are detrimental to wildlife or the natural environment.

Visitors have to pass through the deer winter range, but will be confined to travelling only on the main road. Deep snow blankets the upper elevations, so compaction by snowmobiles is minimal. Visitor safety is the main concern as high winds and blinding snowstorms develop quickly and temperatures drop in a short time.

Several methods of initiating a controlled winter recreation program may be employed including the possibility of using a private concessionaire. Future winter recreation use will have to include additional public meetings to determine methods of management as increased use and more complex problems develop.

Action II.A.3. - Control Livestock Grazing in Canyons and Upper Elevations

Work cooperatively with ranches to provide adequate protection of certain stream and other sensitive areas.

Discussion

The Andrews Resource Area Management Framework Plan, Step 1, notes the specific streams/canyons in coordination with wildlife resources that should be closed to grazing or have season of use changes. Better grazing management will help to stabilize streambanks with subsequent reduced erosion and improved water quality.

Action II.A.4. - Recreation Use Conflicts

Establish visitor use requirements which will include appropriate measures to minimize recreation use conflicts and prohibit those uses which are injurious to the resource.

Discussion

Requirements will include stipulations addressing safety, group size, length of stay, use of horses and pack animals, camping and use areas for extensive recreation activities, as well as intensive use sites, firewood gathering/building of campfires, garbage packout, utilization of water sources and restroom/waste disposal facilities. Requirements and stipulations will change as recreation use conflicts develop or diminish.

Action II.A.5. - Land and Mineral Entry

Impose tightest restrictions possible on surface disturbing activities on the upper elevations of Steens Mountain. The area is generally within the boundaries of the designated Area of Critical

Environmental Concern, Research Natural Areas and Wilderness Study Areas, which are noted in the Andrews Grazing Environmental Impact Statement. All forms of federal and disposal actions are to be discouraged. Mineral operations should be subject to the maximum stipulations possible under surface management regulations for locatable, leasable and salable minerals. Examples of such stipulations might include use of cushion-tired vehicles for cross-country travel, airlifting equipment to operating sites rather than constructing roads and use of visual screening. No withdrawals are proposed under the mining or mineral leasing laws.

Discussion

Minerals exploration and development in this area should be tightly controlled to minimize surface disturbance. The surface disturbance commonly associated with mining or mineral development would be the most damaging activity that could occur in the area, effecting a variety of other resource values such as wilderness characteristics, visual and botanical resources, wildlife, etc. Most of the area is currently designated as a Wilderness Study Area and is managed under 43 CFR 3802 regulations for mining claims and interim management policy for mineral lease operations. In the future, it is possible that the area could alternatively be managed under 43 CFR 3809 regulations. All operations causing surface disturbance should be reviewed under the most stringent interpretations of applicable regulations, using the maximum mitigation possible. Cost and effect on the economics of any proposed operation should not be a consideration in designing mitigation measures. The principal consideration should be the protection and preservation of the land surface resources and air quality.

Action II.A.6. - Regulate Existing Mining Claims

Operation of existing mineral claims will be accomplished under regulations designed to protect natural, cultural and recreation resources.

Discussion

Mining disturbance can be partially mitigated under the provisions of the Federal Land Policy and Management Act (FLPMA). Mining activities are also regulated under 43 Code of Federal Regulations 3802 within Wilderness Study Areas (WSAs) and 43 CFR 3809 in areas outside WSAs. Management under these regulations should take into consideration appropriate exceptions for grandfathered uses and valid existing rights.

B. Wildlife Values

Action II.B.1. - Monitor Bighorn Sheep Populations

Monitor bighorn sheep populations to detect changes in herd numbers and habitat use. Adjust recreation use, manage access, and initiate visitor education programs to allow for the preservation and expansion of bighorn sheep populations. This monitoring would be in cooperation with the Oregon Department of Fish & Wildlife, who are responsible for the management of wildlife species.

Discussion

Bighorn sheep are sensitive to human presence. Although increases in recreational use can likely occur without affecting the population, the level at which use become detrimental is not known. Management should do what is necessary to study the effects of increase in recreational use so that adverse effects can be detected and changes made before serious problems occur.

Action II.B.2. - Redband Trout Habitat

Monitor human activity along the streams to determine impacts on wild fish population.

Discussion

The Steens Mountain streams are noted for the excellent opportunities to catch native trout. While some fishermen enjoy easy access and limiting out on hatchery raised rainbow trout stocked by the State, others prefer fishing for wild or native trout whose populations are low and scattered, and more experience and overall angling skill is required to catch them. An effort will have to be made by the cooperating agencies to ensure the integrity of identified wild trout fishing opportunities. Location of trails to prevent overuse of the fishing is a consideration for this action.

Changes in management can be initiated in cooperation with Oregon Department of Fish and Wildlife, who are responsible for fish management, if visitors use begins to have a negative impact on stream habitat.

Action II.B.3. - Deer Winter Range

Maintain existing closure of deer winter range to ORV use from October through April.

Discussion

Winter is a critical time of the year for deer. Disturbance of deer by vehicle use, particularly snowmobiles, can put stress on deer when they can stand it least. During severe winter weather with deep snow, deer may be particularly susceptible to disturbance because they are often concentrated at accessible, low elevation areas. The existing closure allows regulated vehicle access, but still holds disturbance to a low level.

C. Cultural Values

Action II.C.1. - Cultural Resource Protection

Protect important cultural sites and, where feasible, interpret for public information and education. A sample inventory has been completed for 10-30% of the area, and, in addition to the inventory, a literature search is sufficient to indicate the potential of the cultural resources.

Discussion

Executive Order 11593 for "Protection and Enhancement of the Cultural Environment" documented in 36 Federal Register 8921, May 13, 1971, directs Federal agencies to inventory their cultural resources and submit to the National Register of Historic Places all qualified sites meeting the criteria to protect all nominated sites. There are a number of sites that need to be protected and interpreted which represent the Steens colorful historic background.

Issue III - Land Ownership

A. Acquisitions

Action III.A.1. - Land Base Adjustments Involving Private Lands

Acquire certain parcels of private land within the boundaries of the Steens Mountain Recreation Lands as they become available. Adjustments can be through land exchanges or by purchase.

Discussion

If private lands are offered for sale or exchange the Bureau should actively seek to acquire them in cooperation with the landowners. Numerous recreation activities will benefit by acquiring lands that are closely tied to recreational values on surrounding Bureau lands, provide access to Bureau lands or have specific recreation values that need to be protected and would enhance the

public's recreation experience on the Steens. Purchases will only be achieved by agreements with landowners.

An example of this is 880 acres in Indian Canyon which were acquired in 1984 and offer sightseeing, hiking, fishing and hunting recreation opportunities in a deep, picturesque gorge setting.

The following lands should be acquired if the opportunity is presented, for they have significant recreation attributes that will enhance the recreation opportunities of the Steens Mountain Recreation Lands. Acquisition of lands should not be limited to these areas alone, for the opportunity to obtain private land in the Steens Mountain is seldom available.

1) Lost Lake - (approximately 640 acres). These lands are adjacent to Fish Lake Recreation Site, which received approximately 41,000 visitor days of use in 1982. Dispersed recreation use, including hiking and fishing activities, overflows onto these highly scenic private lands. Lost Lake, a small, shallow, alpine cirque lake is within the boundaries of the property and is a focal point for scenic vistas at the head of Fish Creek Canyon.

2) Pate Lake-Whorehouse Meadows - (approximately 640 acres). These highly scenic lands are in close proximity to Fish Lake Recreation Site. Pate Lake, which is within the land proposed for acquisition, receives overflow use by campers during weekends, holidays, and hunting season. People camp at Pate Lake at times in preference to staying at Fish Lake.

Whorehouse Meadows is of historical value as it once was a meeting place for the many Basque and Irish sheepherders, who herded as many as 100,000 sheep during an era which peaked about 1900. Many names, dates, and carvings can be seen on the aspen trees around the meadow.

The Steens Mountain Loop road traverses the length of the lands, so easy access is available for hikers, backpackers, horseback riders and snowmobilers. Photographic values for scenery and wildlife are high.

Deer hunting is prevalent throughout the area and intensive use is made of the land due to the ease of access and excellent camping areas.

The Steens Mountain loop road approaches the canyon rim overlooking the lands at several locations providing viewing and photographic points.

3) Fir Groves - (approximately 480 acres). The parcel contains two small groves of *Abies concolor*, white fir, the only conifer (other than juniper) in the Steens. The lands offer excellent recreation sightseeing and interpretive potential and are worthy of preservation in an undisturbed condition as a Research Natural Area.

4) Wild Horse Canyon - (approximately 640 acres). These lands are situated within a highly scenic and deep canyon providing habitat (Wildhorse Creek) for the endangered Lahontan cutthroat trout. Although the canyon lacks vehicular access, backpacking and hiking use is common during the summer months. The High Desert Trail follows this canyon as a route into the Steens.

The canyon's scenic values, together with a variety of wildlife, provide excellent opportunities for the photographer. Hunting opportunities are excellent for mule deer and the canyon is habitat for chukar partridge.

5) Upper Kiger Gorge - This 380 acre parcel is within the upper portion of Kiger Gorge, a huge, U-shaped gorge representing a textbook example of glaciation. Kiger viewpoint, which overlooks this highly scenic area, is a heavily used sightseeing attraction adjacent to the Steens Mountain Loop Road.

The area, which is noted for its excellent mule deer hunting, is traversed by a hiking trail providing excellent backpacking and hiking opportunities.

6) High Desert Trail Route - Scattered private tracts should be acquired for routing the High Desert Trail through the Steens. Access is of prime importance, but many scenic and wildlife values are also present. Sections of the trail have been established to avoid private lands as it crosses the southern end of the mountain between Page Springs Campground and the town of Fields, Oregon. However, there are some areas where private lands now restrict it from following a more logical and direct path or from access to a more scenic route.

Action III.A.2. - Land Base Adjustments Involving State Lands

Acquire certain parcels of State land within the boundaries of the Steens Mountain Recreation lands through ongoing State exchanges.

Discussion

Federal ownership of these lands will facilitate BLM management of the Steens. The State lands acquired are listed in State Land Exchange OR 35082 negotiated between the Oregon Division of State Lands and the Burns BLM District in July, 1984. The exchange proposal notes all State land except two parcels, one at Fish Lake owned by the Oregon Department of Fish and Wildlife, the other on the east rim owned by the State where the radio facilities are located.

The legal descriptions for the two excluded parcels are:

1. T. 33 S., R. 32 $\frac{3}{4}$ E., Sec. 1, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$.
T. 32 $\frac{1}{2}$ S., R. 33 E., Sec. 20, S $\frac{1}{2}$:
Sec. 29, NE $\frac{1}{4}$, NE $\frac{1}{4}$,
W $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$.
2. T. 33 S., R. 33 E., Sec. 26, All

B. Easements

Action III.B.1. - Negotiate Scenic Easements

Obtain agreements with private landowners to protect the natural and scenic values of the mountain. If necessary, acquire scenic easements to prevent incompatible use or development of private land.

Discussion

Easements can be used in addition to total land purchases or exchanges as a means of protection and protecting valuable and fragile resources. Often times protection needs to be initiated quickly and negotiated agreements can serve as an interim measure prior to acquisition or other long-term arrangements.

Action III.B.2. - Negotiate Access Easements

Negotiate recreational use agreements across private property where necessary to continue or enhance recreational use, particularly for the development of hiking and horseback trails.

Discussion

Many of the canyons have public access blocked by private lands. Access could be negotiated to obtain passage across the lands with special stipulations regulating or eliminating other uses such as camping, fishing and hunting.

Issue IV - Management Cooperation With Other Agen- cies and Private Entities

A. Management Agreements With Federal, State and Local Agencies and Private Individuals/Organizations

Action IV.A.1. - Develop Management Programs

Coordinate the visitor and resource management program with the following Federal, State and local agencies and various private landowners:

- 1) U.S. Fish and Wildlife Service
- 2) Soil Conservation Service
- 3) State of Oregon
 - Department of Fish & Wildlife
 - Marine Board
 - Division of State Lands
 - Water Resources Department
 - Historic Preservation Office
 - Parks and Recreation Branch
 - State Police
- 4) Harney County, Oregon
- 5) Private Landowners

Discussion

The preceding agencies and private landowners manage resources, own land, provide law enforcement and search and rescue, conduct inventories and research and provide project funds on the Steens Mountain. Support and cooperation between agencies and individuals is necessary to effectively and efficiently manage the mountain.

B. Military

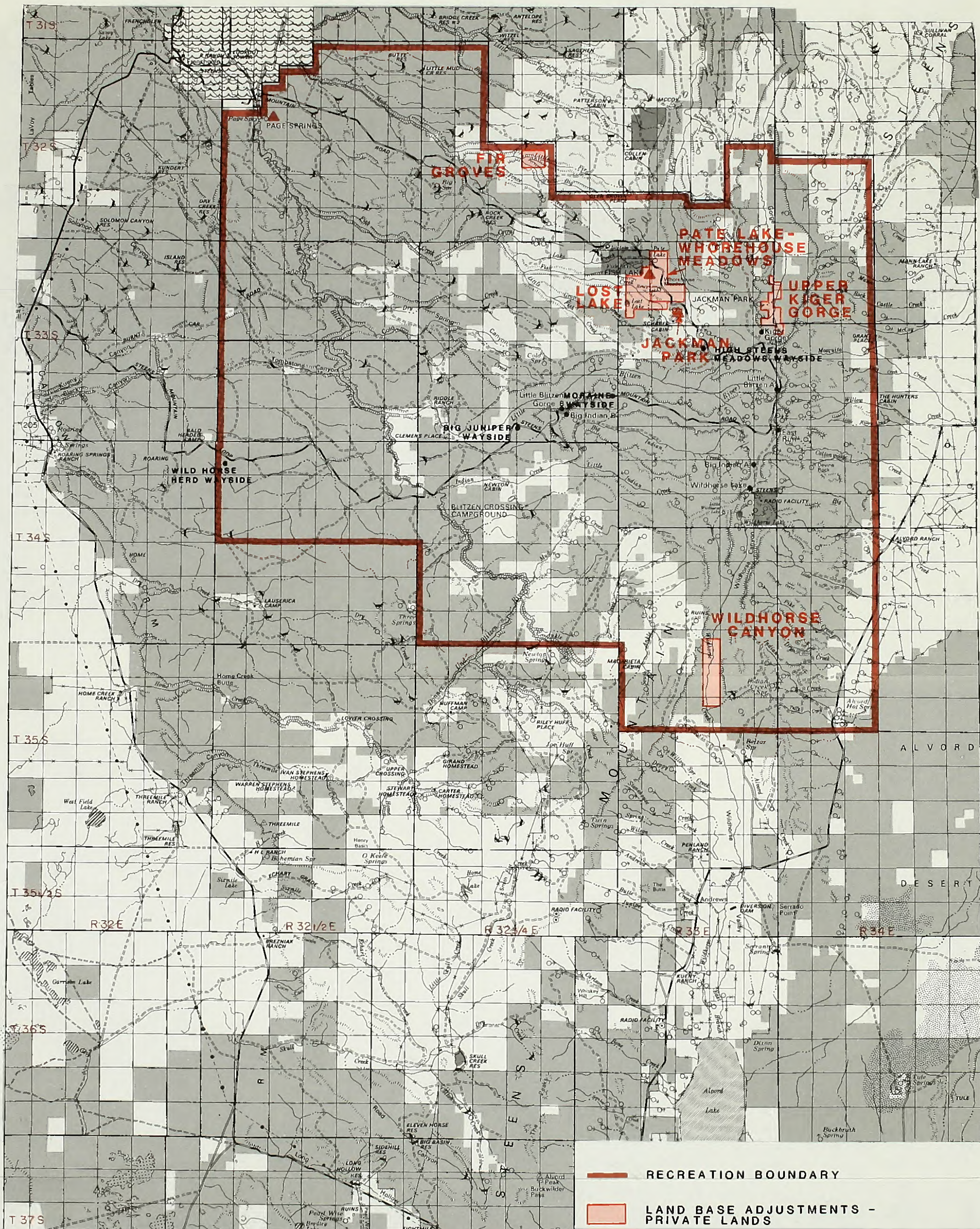
Action IV.B.1. - U.S. Air Force

Action IV.B.1. - U.S. Air Force

Work with the U.S. Air Force to mitigate the impacts of low-flying aircraft over and in the canyons, if feasible.

Discussion

Low flying aircraft disrupt the natural serenity of the canyon and lessen the sense of solitude and isolation it provides.



STEENS MOUNTAIN

U. S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District
1984

SCALE
0 1 2 3 Miles

MAP 4

Land Base Adjustments -
Private Lands

Part IV - Implementation Phasing and Cost Estimates

The following Table 4 shows planned actions and cost estimates for the recreation lands management program through fiscal year 1993. The actions discussed in Part III, The Management Plan, are

scheduled for implementation during the 10-year period. ¹ While some additional planning, survey and design and/or construction may be necessary to fully implement some of the actions, others can be fulfilled with a minimum of preliminary work. Cost estimates are not shown for some actions as additional funding is not necessary for their implementation and continued enforcement. Acquisition of private lands may be completed through exchanges rather than purchases and cost estimates will be considerably less.

Table 4

	Action	FY 84	FY 85	FY 86	FY 87	FY 88 (No Cost)	FY 89	FY 90	FY 91	FY 92	FY 93	Total Est. Costs
II.A.1	Proposed Wilderness Area Designations											
II.A.2	Proposed ACEC/RNA Designations					(No Cost)						
II.A.3	Special Recreation Use Permits/temporary use permits	(No Cost)										
II.A.4	High Desert Trail		3,000	3,000	3,000	3,000	12,000					
II.B.1	Law Enforcement/Search & Rescue/Visitor Safety	8,500	9,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	97,500
II.B.2	Recreational Use Monitoring	20,000	20,000	20,000	30,000	20,000	20,000	20,000	20,000	30,000	20,000	220,000
II.B.3	Visitor Use Allocation Education Program			3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	24,000
II.B.4	Public Information and Education Program	2,000	2,000	7,000	2,000	2,000	2,000	2,000	7,000	2,000	2,000	30,000
II.C.1	Facilities Operation and Maintenance	35,000	37,000	40,000	40,000	40,000	45,000	45,000	45,000	47,000	47,000	421,000
II.C.2	Present Developments		40,000	20,000	20,000	20,000	100,000					
II.C.3	Future Developments Survey & Design Construction	10,000	35,000	35,000	10,000	80,000	10,000	200,000	200,000	15,000	250,000	45,000 800,000
II.C.4	Signs Program Design		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	9,000
1.D.1	Upgrading of Existing Roads	2,000	2,000	2,000	3,000	3,000	3,000	3,000	3,000	2,000	2,000	20,000
II.D.2	Closure of Certain Existing Roads					(No Cost)						
1.D.3	No New Access Development (Subalpine Zone)					(No Cost)						
II.A.1	Motorized Vehicle Use	2,000				2,000			2,000			6,000

¹ Some of these actions must be deferred until Congressional action on wilderness.

II.A.2.	Winter Sports Use	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	9,000
II.A.3.	Control of Live-stock - Grazing in Canyons & Upper Elevations - Fence Construction/ Maintenance	15,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	33,000
II.A.4.	Recreation Use Conflicts					(No Cost)						
II.A.5.	Land and Mineral Entry					(No Cost)						
II.A.6.	Regulation of Existing Valid Mining Claims	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	9,000
II.B.1	Monitor Bighorn Sheep Population	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	10,000
II.B.2.	Redband Trout Habitat-Monitor Fishing Use	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	10,000
II.B.3.	Closure of Winter Range to ORV Use					(No Cost)						
II.C.1	Cultural Resource Survey	10,000	10,000	10,000								30,000
III.A.1.	Land Base Adjust-ments of Private Lands	85,000	88,000	119,000	40,000	88,000	50,000	155,000	10,000	33,000		668,000
III.A.2.	Land Base Adjust-ments of State Lands					(No Cost)						
III.B.1.	Negotiate Scenic Easements		10,000	10,000	10,000							30,000
III.B.2.	Access Easements on Private Lands		10,000	10,000	10,000	10,000						40,000
IV.A.1.	Management Agree-ment with Federal & State & Local Agencies					(No Cost)						
IV.B.1.	Management Agreement with Military					(No Cost)						
FY Totals		106,500	250,000	245,000	267,000	250,000	208,000	350,000	452,000	126,000	374,000	2,628,000

The following summary of the total estimated funding needs is shown by fiscal year.

Fiscal Year	Total Estimated (\$) Funding Needs
1984	106,500
1985	250,000
1986	245,000
1987	267,000
1988	250,000
1989	208,000
1990	350,000
1991	452,000
1992	126,000
1993	374,000
Total	2,628,000

Part V — Appendices

Appendix A: Local Organizations
Appendix B: Other Organizations
Appendix C: Other Organizations

Appendix D: Other Organizations
Appendix E: Other Organizations
Appendix F: Other Organizations
Appendix G: Other Organizations

State Participation

Appendix H: Other Organizations
Appendix I: Other Organizations
Appendix J: Other Organizations
Appendix K: Other Organizations
Appendix L: Other Organizations
Appendix M: Other Organizations
Appendix N: Other Organizations
Appendix O: Other Organizations

Other Agency and Interest Group Participation

Appendix P: Other Organizations
Appendix Q: Other Organizations
Appendix R: Other Organizations
Appendix S: Other Organizations
Appendix T: Other Organizations
Appendix U: Other Organizations
Appendix V: Other Organizations
Appendix W: Other Organizations
Appendix X: Other Organizations
Appendix Y: Other Organizations
Appendix Z: Other Organizations

Appendix A Planning Participants and Cooperators

Bureau of Land Management, Burns District Office Line Participation

Joshua L. Warburton - District Manager
Marvin D. Durfee - Area Manager
 Andrews Resource Area
Victor E. Pritchard - Assistant District Manager for
 Resources

Staff Participation

David E. Vickstrom - Outdoor Recreation Planner
Guy R. Sheeter - Wildlife Specialist
Russell W. Krapf - Soil Scientist
Nancy Felix - Botanist
Geoffrey L. Haskett - Realty Specialist
Jerome A. Petzold - Range Conservationist
Ronald H. Wiley - Fisheries Biologist
George B. Brown - Geologist
Mark A. Hosket - Wilderness Coordinator
Teresa M. Gibson - Public Affairs Specialist
Fred McDonald - Outdoor Recreation Planner

Other Agency and Interest Group Participation

Oregon Department of Fish and Wildlife
BLM Burns Advisory Board
Harney County Planning Commission
Desert Trail Association
Oregon Natural Resources Council
Harney County Economic Development Committee
The Nature Conservancy
Malheur National Field Station
Wildlife Management Institute
Oregon Council of Rock & Mineral Clubs
County Court for Harney County
Mazamas
The Wilderness Society

Appendix B

Applicable Federal, State Laws and Regulations

- Federal Land Policy and Management Act: Public Law 94-579: 94th Congress, S.507: October 21, 1976;
- Wilderness Act: Public Law 88-577: (S.4): September 3, 1964;
- Interim Management Policy and Guidelines for Lands Under Wilderness Review, Bureau of Land Management;
- 43 Code of Federal Regulations: Subchapter F-Wildlife Management (6000); Subchapter H-Recreation Programs (8000);
- National Wild and Scenic Rivers Act of 1968, 16 U.S.C. 1271-87;
- National Trail System Act of 1968, 16 U.S.C. 1241 et seq.;
- Land and Water Conservation Fund Act of 1964, 16 U.S.C. 460 1-1 et seq.;
- Recreation and Public Purposes Act of 1926, 43 U.S.C. 869 et seq.;
- National Environmental Policy Act of 1969, 42 U.S.C. 4321;
- Taylor Grazing Act, 43 U.S.C. 315;
- Sikes Act, 16 U.S.C. 670 et seq.;
- Federal Water Projects Recreation Act, 16 U.S.C. 460 1-12 et seq.;
- Antiquities Act of 1906 (34 Stat. 225, 16 U.S.C. 432, 433);
- Historic Sites Act (80 Stat. 915-919), P.L. 89-655;
- Executive Order 11593, Protection and Enhancement of the Cultural Environment;
- Executive Order 11644, Use of Off-Road Vehicles on Public Lands;
- Secretarial Order No. 2924, Responsibility for Planning the National Wild and Scenic Rivers System and the National Trails System;
- Public Land Administration Act, July 14, 1960 (74 Stat. 506);
- Oregon Administrative Rules, Chapter 736, Division 40-State Parks and Recreation Division.

Appendix C

Management Program Alternatives

The management program presented in Part III resulted from an assessment of various alternatives to resolve identified issues. Alternatives considered but not included as part of the management program are listed below. For some actions, there are no alternatives which could be implemented to resolve issues within the framework of the stated management objective.

Issue I - Level and Degree of Administrative Control

Action I.A.1. - Proposed Wilderness Designations

Alternative - Do not support wilderness designation as a way to enhance primitive recreation opportunities but manage the recreation lands to protect the primitive and backcountry resources. If Congress votes for designation of specific Wilderness Study Areas as wilderness areas, management more specific to protection of wilderness values will be followed.

Action I.A.2. - Areas of Critical Environmental Concern/Natural Area Designations

Alternative - (No viable alternatives determined.)

Action I.A.3. - Special Recreation Use Permits

Alternative - Allow unregulated visitor use of the mountain. This could result in damage to natural and cultural resources through excessive and uncontrolled use as well as increased conflicts between groups and loss of data and resource knowledge of the area.

Action I.A.4. - High Desert Trail Route/Other Trail Routes

Alternative - Do not develop any trails or delineate routes to enhance the visitors' experience, but let people backpack and hike as best they can through the canyons and high country.

Conflicts can arise with visitors using areas with special wildlife or plant needs (i.e., Bighorn sheep, Redband trout, endangered plant habitat). Routing backpackers through the Steens is also necessary to get hikers through the area and routed on to another point of destination. The Desert Trail en-

compasses the national border-to-border concept and the Steens is only a small portion of the overall trail route.

Action I.B.1. - Law Enforcement/Search and Rescue/Visitor Safety

Alternative - Develop no cooperative agreements for law enforcement or search and rescue but rely on State laws and a working relationship between the Oregon State Police, the Harney County Sheriff's Department and the BLM to handle situations. This would work as long as lines of communications are kept open and county funds are available to make patrols.

Action I.B.2. - Recreational Use Monitoring

Alternative - Do not monitor recreation use. Impacts on resources from public use would not be determined until unacceptable changes occurred.

Action I.B.3. - Visitor Use Allocation System

Alternative - (Reserved)

Action I.B.4. - Public Information and Education Program

Alternative - (No viable alternatives determined.)

Action I.C.1. - Facilities Operation and Maintenance

Alternative - Close and remove Blitzen Crossing and Jackman Park and keep only the major recreation sites (Page Springs and Fish Lake) open and maintained at a level that meets minimum safety and maintenance standards. This alternative will not fully address the problem of group use and conflicts with other uses in these small campgrounds due to diminished developed camping opportunities.

Action I.C.2. - Present Developments

Alternative - Construct no specific group use developments but mix group use with individual and family use on a first come-first served basis in the developed and maintained campgrounds. Do not provide any more water systems at the present recreation sites. Users can bring their own water supply with them or utilize the sources in the surrounding area. Continue to manage recreation sites at a minimum level where individual site improvements and definement, interpretive

developments or other enhancements are low priority. Conflicts involving public safety and damage to the environment from visitor use can be handled as problems arise. This alternative does not address active management but could allow resource damage, often irreparable, to occur. An example of this is the introduction of exotic or undesirable plant species brought in with horse feed from out of the county. Visitor safety is also ignored as is monopolization of facilities by groups of people to the exclusion of the vacationing small family unit.

Action I.C.3. - Future Developments

Alternative - Develop no interpretive sites along the loop road to accommodate vehicular sightseeing. Let the present locations created by past vehicle traffic suffice. Address any visitor safety problems as they become evident (build fences or walls, better walking surfaces). Let the visitors identify and educate themselves to landmarks and natural phenomena by using the Steens Mountain map and their own expertise and knowledge of the area. Positive and active management is again not addressed. The visitors are allowed to rely on their own knowledge of the area without any interpretive enhancement of the natural resources nor any obligation by the Bureau to provide safety measures after developing access to the high Steens.

Action I.C.4. - Signs Program

Alternative - (No viable alternatives determined.)

Action I.D.1. - Upgrading of Existing Roads

Alternative - Maintain existing roads including the Steens Loop Road to allow passage of passenger cars and two-wheel drive vehicles to specific fishing sites, hunter camps and points of interest. The Loop Road could be hard surfaced. This would cause an increase in vehicle use resulting in the need for more intensive visitor management practices.

Action I.D.2. - Steens Loop Road Access

Alternative - Close a section of the South Loop Road from four miles east of Blitzen Crossing to the top of the summit.

The South Steens Loop Road is the common boundary for two Wilderness Study Areas (WSAs) on the upper Steens. If these WSAs are designated as Wilderness Areas, it is logical that they become one contiguous Wilderness Area. This section of road is also difficult to maintain. Annual spring run-off washes deep gullies in the road and maintenance costs are high to keep it in condition to allow passage of vehicles on the steep grades.

Action I.D.3. - New Access Development

Alternative - Allow additional development of roads in the subalpine zone to promote access to viewpoints, hunting and fishing areas and other points of interest. This action is not compatible with the present policy of protection of this area due to its fragileness as well as the outstanding natural resources that are best kept in an undeveloped, backcountry type of environment.

Issue II - Environmental Protection

Action II.A.1. - Motorized Vehicle Use

Alternative - Open the mountain to unregulated vehicle use that does not consider the protection measures but is keyed to increased visitor numbers and unrestricted visitor access. This alternative does not follow the Bureau's management objective for the enhancement of opportunities for high quality recreation experiences to the extent the area's environment is not degraded.

Action II.A.2. - Winter Sports Use

Alternative A - Same as Action II.A.1.

Alternative B - Close the mountain to winter recreational activities and allow access only for administrative purposes such as maintenance of the radio system, predator control, deer studies and snow surveys.

Action II.A.3. - Control Livestock Grazing in Canyons and Upper Elevations

Alternative - Continue present grazing practices which adversely affect the riparian zones in many of the canyons as well as develop conflicts with recreation uses, particularly the fisheries resource. If recreation is recognized as the prime use of the area, then actions to promote or enhance the recreation opportunities should be foremost even though the multiple use concept of resources is employed by the Bureau.

Action II.A.4. - Recreation Use Conflicts

Alternative - (No viable alternative determined.)

Action II.A.5. - Land and Mineral Entry

Alternative - Withdraw the upper elevations of Steens Mountain, generally within the boundaries of the designated Area of Critical Environmental Concern and Natural Areas as noted in the Andrews Grazing Management Program Environmental Impact Statement, from all forms of land disposal and mineral entry subject to valid existing rights.

Action II.A.6. - Regulate Existing Valid Mining Claims

Alternative - (No viable alternative determined.)

Action II.B.1. - Monitor Bighorn Sheep Populations

Alternative - Allow recreational uses in the areas inhabited by bighorn sheep without monitoring their effect on the animals and considering the animal's sensitivity to human encroachment. This is not a positive approach to developing viable multiple resource use in which recreation and wildlife use can both be allowed without becoming a detriment to either.

Action II.B.2. - Redband Trout Habitat

Alternative - No action. Allow recreational use in the canyons where there are populations of Redband trout without considering fishing pressure and its effect on the fish population over a period of time.

Action II.B.3. - Deer Winter Range

Alternative - (No viable alternative.)

Action II.C.1. - Cultural Resource Surveys and Other Alternative

Alternative - (No viable alternative.)

Issue III - Land Ownership

Action III.A.1. - Acquisition of Private Lands

Alternative A - Use scenic and access easements as a means to protect natural values and provide access for visitors. Long-term protection and access will be possible only if the landowners accept long-term agreements and renewal of agreements is assured even with change of private land ownership.

Alternative B - No action. Private lands would remain intermingled with public lands resulting in fragmented management practices. In addition, certain recreation opportunities would be eliminated or diminished, particularly for access through certain canyons. Some outstanding natural and cultural values could be altered or destroyed.

Action III.A.2. - Acquisition of State Lands

Alternative - No action.

Action III.B.1. - Negotiate or Purchase Scenic Easements

Alternative - No action. Unacceptable developments or management actions could occur on private lands that would adversely affect the scenic and natural values of the area.

Action III.B.2. - Access Easements on Private Lands

Alternative - No action. The public could be denied access for hunting, fishing, camping, hiking and other extensive type recreation uses.

Issue IV - Management Cooperation With Other Agencies and Private Entities

Action IV.A.1. - Develop Management Programs

Alternative - No action. Manage the Bureau lands with a minimum of coordination with other agencies, organizations and individuals. Fragmented management would result with overlapping and conflicting management practices, public confusion and environmental degradation.

Action IV.B.1. - U.S. Air Force Agreement

Alternative - No action. Low flying overflights and disturbance would continue.

Appendix D

Threatened, Endangered and Sensitive Plant List

Scientific Name	Common Name	Status
<i>Agastache cusickii</i>	Cusick's horsemint	S
<i>Argemone munita</i> ssp. <i>rotundata</i>	prickly poppy	D
<i>Betula glandulosa</i> var. <i>glandulosa</i>	bog/scrub birch	D
<i>Botrychium lanceolatum</i>	lance-leaved grape-fern	S
<i>Botrychium lunaria</i>	moonwort	S
<i>Botrychium simplex</i>	little grape-fern	S
<i>Carex haydeniana</i>	Hayden's sedge	S
<i>Castilleja steenensis</i>	Steens Mountain paintbrush	F
<i>Cirsium peckii</i>	Steens Mountain thistle	local endemic
<i>Claytonia bellidifolia</i>	alpine spring beauty	D
<i>Claytonia nevadensis</i>	Sierra spring beauty	S
<i>Cryptogramma crispa</i>	parsley-fern	D
<i>Cymopterus bipinnatus</i>	Hayden's cymopterus	S
<i>Draba sphaeroides</i> var. <i>cusickii</i>	Steens Mountain whitlow grass	D
<i>Gentiana prostrata</i>	mos or pygmy gentian	S
<i>Haplopappus uniflorus</i> ssp. <i>linearis</i>	one-flowered goldenweed	D
<i>Lesquerella occidentalis</i>	western bladderpod	D
<i>Lupinus lyallii</i> ssp. <i>minutifolius</i>	small-leaved lupine	local endemic
<i>Melica stricta</i>	nodding melic	D
<i>Penstemon davidsonii</i> var. <i>praeteritus</i>	Davidson's penstemon	regional endemic
<i>Polemonium viscosum</i>	sticky polemonium	D
<i>Polystichum kruckebergii</i>	Kruckeberg's swordfern	D
<i>Polystichum lonchitis</i>	mountain holly-fern	D
<i>Potamogeton diversifolius</i>	diverse-leaved pondweed	S
<i>Potamogeton nodosus</i>	long-leaved pondweed	D
<i>Salix arctica</i>	arctic willow	D
<i>Salix brachycarpa</i>	short-fruited willow	D
<i>Salix drummondiana</i>	Drummond's willow	D
<i>Saxifraga adscendens</i> var. <i>oregonensis</i>	wedge-leaved saxifrage	S
<i>Saxifraga caespitosa</i> var. <i>minima</i>	tufted saxifrage	D
<i>Sedum debile</i>	weak-stemmed stonecrop	D

Status Denotation

F - U.S. Fish & Wildlife Service Candidate for Listing as Threatened or Endangered.

S - BLM Interim State Sensitive List.

D - Burns District List.

Appendix E Ecosystems Represented in Steens Mountain Wilderness Study Areas

1) 2-85F, *High Steens* Bailey-Kuchler

Intermountain sagebrush province

- Saltbush-greasewood
- Alpine meadows and barren
- Sagebrush steppe

Oregon Natural Heritage Plan

B&R-T 9: Big sagebrush/Idaho fescue

B&R-T 10: Big sagebrush on Steens Mountain

B&R-T 14: Low sagebrush/Idaho fescue

B&R-T 15: Low sagebrush/Sandberg's bluegrass

B&R-T 17: Low sagebrush on Steens Mountain

B&R-T 27: Mountain mahogany community in southern Basin and Range

B&R-T 28: Bitterbrush-sagebrush/snowberry on Steens Mountain

B&R-T 30: Snowbrush and bitter cherry community complex

B&R-T 31: Aspen grove

B&R-T 32: Alpine communities on Steens Mountain including snow deflation communities and moderate snow cover communities

B&R-T 33: Alpine communities on Steens Mountain including downslope snow accumulation areas and upper cirque communities

B&R-T 38: High elevation fescue grassland

B&R-T 40: Birds of prey rimrock nesting area

B&R-F 3: Stream system originating in glacial cirque

B&R-F 7: Mid to high elevation lake

B&R-F 12: Mid to high elevation vernal pond

B&R-F 17: First to third order stream system in originating in the subalpine

B&R-T 11: Big sagebrush-greasewood

Abbreviations B&R-T ⁵ Basin & Range, Terrestrial

B&R-F ⁵ Basin & Range, Fresh Water Aquatic

Numbers denote community or aquatic elements in inventory system.

2) 2-85G, *South Fork Donner und Blitzen* Bailey-Kuchler

Intermountain sagebrush province

- Sagebrush steppe

Oregon Natural Heritage Plan

B&R-T 5: Western juniper/big sagebrush/Idaho fescue community

B&R-T 7: Western juniper/low sagebrush/Sandberg's bluegrass

B&R-F 1: Stream system originating in sagebrush zone.

B&R-F 17: Cold springs

3) 2-85H, *Home Creek* Bailey-Kuchler

Intermountain sagebrush province

- Sagebrush steppe

Oregon Natural Heritage Plan

B&R-T 14: Low sagebrush/Idaho fescue

B&R-T 40: Birds of prey rimrock nesting area

B&R-T 5: Western juniper/big sagebrush/Idaho fescue community

B&R-T 7: Western juniper/low sagebrush/Sandberg's bluegrass

B&R-T 9: Big sagebrush Idaho fescue

B&R-T 14: Low sagebrush/Idaho fescue

B&R-F 1: Stream system originating in sagebrush zone.

4) 2-86E, *Blitzen River* Bailey-Kuchler

Intermountain sagebrush province

- Sagebrush steppe

Oregon Natural Heritage Plan

B&R-T 39: Sage grouse strutting ground

B&R-T 5: Western juniper/big sagebrush/Idaho fescue community

B&R-T 7: Western juniper/low sagebrush/Sandberg's bluegrass

B&R-T 9: Big sagebrush Idaho fescue

B&R-T: Low sagebrush/Sandberg's bluegrass

B&R-F 1: Stream system originating in sagebrush zone

B&R-F 17: Cold springs

5) 2-86F, *Little Blitzen Gorge* Bailey-Kuchler

Intermountain sagebrush province

- Alpine meadows and barren
- Sagebrush steppe

Oregon Natural Heritage Plan

B&R-T 5: Western juniper/big sagebrush/Idaho fescue community

B&R-T 10: Big sagebrush on Steens Mountain

B&R-T 27: Mountain mahogany community in southern Basin and Range

B&R-T 28: Bitterbrush-sagebrush/snowberry on Steens Mountain

B&R-T 31: Aspen grove

B&R-T 32: Alpine communities on Steens Mountain including snow deflation and moderate snow covered communities

B&R-T 33: Alpine communities on Steens Mountain including downslope snow accumulation areas and upper cirque communities

B&R-T 40: Birds of prey rimrock nesting area

B&R-F 3: First to third stream system originating in glacial cirque

B&R-T 34: Black cottonwood riparian area

6) 2-87, *Bridge Creek* Bailey-Kuchler

Intermountain sagebrush province

- Sagebrush steppe

Oregon Natural Heritage Plan

B&R-T 39: Sage grouse strutting ground

B&R-T 7: Western juniper/low sagebrush/Sandberg's bluegrass

B&R-T 8: Big sagebrush/bluebunch wheatgrass Low sagebrush/needlegrass

B&R-T 15: Low sagebrush/Sandberg's bluegrass

B&R-F 1: Stream system originating in sagebrush zone

B&R-F 17: Cold springs

Appendix F

Recreation Opportunity Spectrum Class Descriptions

Opportunity Class	Experience Opportunity	Setting Opportunity	Activity Opportunity
Primitive	Opportunity for isolation from the sights and sound of man, to feel a part of the natural environment, to have a high degree of challenge and risk, and to use outdoor skills.	Area is characterized by essentially unmodified natural environment of fairly large size. Concentration of users is very low and evidence of other users is minimal. The area is managed to be essentially free from evidence of man-induced restrictions and controls. Only facilities essential for resource protection are used. No facilities for comfort or convenience of the user are provided. Spacing of groups is informal and dispersed to minimize contact between groups. Motorized use within the area is not permitted.	Camping Hiking Climbing Enjoying Scenery or Natural Features Nature Study Photography Horseback Riding Spelunking Hunting (big game, small game, upland birds, waterfowl) Ski Tearing and Snowshoeing Swimming Diving (Skin and Scuba) Fishing Canoeing Sailing River Running (non-motorized craft)
Semi-Primitive Nonmotorized	Some opportunity for isolation from the sights and sounds of man, but not as important as for primitive opportunities. Opportunity to have a high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills.	Area is characterized by a predominantly unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. On-site controls and restrictions may be present, but are subtle. Facilities are provided for the protection of resource values and the safety of users only. Spacing of groups may be formalized to disperse use and limit contact between groups. Motorized use is not permitted.	Same as the above.

Semi-Primitive	<p>Some opportunity for isolation from the sights and sounds of man, but not an important as for primitive opportunities. Opportunity to have a high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skill. Explicit opportunity to use motorized equipment while in the area.</p>	<p>Area is characterized by a predominantly unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. On-site controls and restrictions may be present, but are subtle. Facilities are provided for the protection of resource values and the safety of users only. Spacing of groups may be formalized to disperse use and limit contact between groups. Motorized use is not permitted.</p>	<p>Same as the above, plus the following:</p> <p>ORV Use (4-WD, Dune Buggy, Dirt Bike, Snowmobile) Power Boating.</p>
Roaded Natural	<p>About equal opportunities for affiliation with other user groups and for isolation from sights and sounds of man. Opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities are not very important except in specific challenging activities. Practice of outdoor skills may be important. Opportunities for both motorized and nonmotorized recreation are present.</p>	<p>Area is characterized by a generally natural environment with moderate evidence of the sights and sounds of man. Resource modification and utilization practices are evident, but harmonize with the natural environment. Concentration of users is low to moderate with facilities sometimes provided for group activity. On-site controls and restrictions offer a sense of security. Rustic facilities are provided for user convenience as well as for safety and resource protection. Conventional motorized use is provided for in construction standards and design of facilities</p>	<p>All activities listed previously, plus the following:</p> <p>Picknicking Rock Collecting Wood Gathering Auto Touring Downhill Skiing Snowplay Water Skiing & Other Water Water Sports Hang Gliding Interpretive Use Rustic Resorts and Organized Camps</p>
Rural	<p>Opportunities to experience affiliation with individuals and groups are prevalent as is the convenience of sites and opportunities. These factors are generally more important than the natural setting. Opportunities for wildland challenges, risk taking, and testing of outdoor skills are unimportant, except in those activities involving challenge and risk.</p>	<p>Area is characterized by substantially modified natural environment. Resource modification and utilization practices are obvious. Sights and sounds of man are readily evident, and the concentration of users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for specific activities. Developed sites, roads and trails are designed for moderate to high use. Moderate densities are provided far away from developed sites. Facilities for intensive motorized use are available.</p>	<p>All activities listed previously, plus the following:</p> <p>Competitive Games Spectator Sports Bicycling Jogging Outdoor Concerts Modern Resorts</p>

Modern Urban

Opportunities to experience affiliation with individuals and groups are prevalent as is the convenience of sites and opportunities. Experiencing the natural environment, and the use of outdoor skills are largely unimportant.

Area is characterized by a highly modified environment, although the background may have natural elements. Vegetation is often exotic and manicured. Soil may be protected by surfacing. Sights and sounds of man, on-site are predominate. Large numbers of users can be expected. Modern facilities are provided for the use and convenience of large numbers of people. Controls and restrictions are obvious and numerous. Facilities for high intensity motor use and parking are present with forms of mass transit often available.

All activities listed previously.

Note: This listing of activity opportunities is provided for illustrative purposes. It is not an all-inclusive list of activity opportunities on the public lands.

Appendix G - Bibliography and Writings of Interest

Bright, Ruth McGilvra

1980. Prehistory and History of the Harney Area: A Cultural Resource Overview. Bureau of Land Management, Burns District, Oregon.

Davies, K. G., ed.

1961. Peter Skene Ogden's Snake County Journal 1826-1829. London: The Hudson's Bay Record Society.

Hanley, Mike with Omer Stanford

1976. Sagebrush and Axle Grease. Caldwell: Shorb Printing Company.

Jackman, E.R. and John Scharff,

1967. Steens Mountain in Oregon's High Desert County. Caldwell: The Caxton Printers, Ltd.

Jackson, Royal G. and Jennifer A. Lee

1978. Harney County And Historical Inventory. Harney Co. Planning Commission, Harney Co. Historical Society.

Lund, Ernest H. and Ellen Bentley.

1976. Steens Mountain, Oregon. The Ore Bin

Trainer, Charles E., et al.

1981. Mortality of Mule Deer Fawns in Southeastern Oregon, 1968-1979. Oregon Dept. of Fish and Wildlife, Wildlife Research Report No. 10.

USDA - Forest Service

Oregon State University

1982. Brown, Perry J. and Martha E. Lee. Refinement of Recreation Opportunity Spectrum System by Field Studies on Bureau of Land Management Lands in the Steens Mountain Area of Oregon; three volumes.

USDI - Bureau of Land Management

1980-81 Andrews Resource Area Planning Documents, Burns District Office.

USDI - Bureau of Land Management

1977. Fishes of the Burns District Pamphlet, Burns District, Oregon.

Van Dyke, Walter A.

1978. Population characteristics and Habitat Utilization of Bighorn Sheep, Steens Mountain, Oregon. Master of Science Thesis.

Williams G., ed.

1971. Peter Skene Ogden's Snake Country Journals 1827-1828 and 1928-1929 London: The Hudson's Bay Record Society.

ER'S CARD

management final plan for the
creation lands.

	OFFICE	DATE RETURNED
144	Quadrangle	2/28/59

(Continued on reverse)

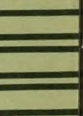
Bureau of Land Management
Library
Bldg. 50, Denver Federal Center
Denver, CO 80225

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BURNS DISTRICT OFFICE
74 S. ALVORD STREET
BURNS, OREGON 97720

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, \$300



POSTAGE AND FEES PAID
U.S. DEPARTMENT
OF THE INTERIOR
INT 415